General Information
Class Time: 3:00-4:15 MW

Class Location: Dale Hall 103

Laboratory Time: Tuesday 8:30-10:20 (Section 11), 12:30-2:20 (Section 12), 2:30-4:20 (Section 13). You must attend your scheduled laboratory session.

Laboratory Location: M207 SEC

Prerequisites: Math 1523 or equivalent or concurrent enrollment.

This section is appropriate for students with little or no prior programming experience. Students with prior programming experience should enroll in Section 20. We will do a placement examination on the first day of class to determine enrollment.

Instructor: Dr. Deborah A. Trytten (rhymes with mitten)

Office: Devon 234
Office Phone: 325-4299 (voice mail available, but email usually gets a quicker response)
Class home page: http://learn.ou.edu
Personal URL: http://www.cs.ou.edu/~trytten
Email: dtrytten@ou.edu

My office hours sometimes have to be changed during the semester. The current office hours are located on the course web site and are always posted by my door.

- Tuesday 11-12
- Wednesday 9-10
- Friday: 1-2

Appointments for additional office hours are scheduled through email.

Teaching Assistants
All teaching assistant office hours will be held in Devon 115.

Chandrika Satyavolu (lead TA): csatyavolu@ou.edu
Labs: 8:30, 12:30, 2:30
Office hours: Wednesday 1-2, Thursday 11-12
Megan Robinson:
Labs: 8:30, 2:30
Office hours: Monday 10-11, Thursday 3-4

Asif Adnan: 12:30 lab support
No office hours

**Required Materials:**


Working laptop computer with 2 hours of battery life, and wireless network access. We will use computers during class time every day, and every day in lab. You are expected to bring your laptop to class and to lab.

**Java Software Installation**

Java JDK Version 7, Update 25. You will need to have both the Software Development Kit (SDK) and the Java Runtime Environment (JRE) installed on your computer. You may also wish to install the documentation on your computer if you have difficulties with internet connectivity. We will use the documentation more late in the semester, and extensively in CS 2334.

We will use Eclipse as our integrated development environment (IDE) this semester.

**Software Tutorial Products**

We will use a number of software products to help you learn to program. When asked to enter your name, **please use the name that appears in official University records**, not a nick name or a joke name.

TuringsCraft Java CodeLab package (http://www.turingscraft.com). Our section access code is: UOFO-11761-NBQD-18. On the right hand side of the website, you will find a title of Register. Click student and proceed. The access code is purchased over the Internet directly from the company. If you do not have a credit or debit card available, call Turingscraft and they will turn on your account while you mail a check.

Problets for our class are located here: [http://problets.org/user/f13/ou/](http://problets.org/user/f13/ou/). There is no charge for using problets. If you use the link above to enter problets, your grades will automatically be sent to me.

Coding Bat requires you to create an account of your own. Please give your name in the account, not just the email (particularly if your email doesn’t contain your name). Share your responses with my teacher account ([dtrytten@ou.edu](mailto:dtrytten@ou.edu)) so we can get your grades recorded properly.
**Topical Coverage**
I expect to cover approximately Chapter 1-7, 9-10 in Liang during the course of the semester.

Topics: Computers, programs, Java, input and output, identifiers, variables, assignment statements, constants, memory diagrams, primitive data types, conditional statements, repetition, methods, parameters, arguments, return values, one dimensional arrays, objects, classes, and classes from the Java Application Programmers Interface (API) (including Character, Double, Integer, Float, Scanner, String, StringBuffer, and StringBuilder).

In this class, students will increase their ability to meet the following ABET outcomes:

- **Outcome B**: Analyze a problem, and identify and define the computing requirements appropriate to its solution.
- **Outcome C**: Design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
- **Outcome K**: Apply design and development principles in the construction of software systems of varying complexity.

**Course Design**
This course is designed to help you master computer programming. Learning to program is challenging and time consuming. Computers are unforgiving. Programs need to be expressed in a language that is far more precise than English. The result is that programming alone can be very unpleasant and frustrating at first since little mistakes can take a long time to find and fix. If we spend our valuable class time introducing new material with a lecture, then you are left with having to figure out how to deal with most of the frustration of programming on your own.

The design for this class is called an inverted classroom. The basic introduction to the material will be accomplished through reading assignments in the textbook done before class, followed by a reading quiz. The hard work of practicing programming will be done in class and in lab, where there are other students, teaching assistants, and faculty to help you succeed. The result should be that you learn to program better with less frustration and we all will certainly have more fun.

**Before class:**
- Read section(s) of given chapter (typical length of assignment: 10-12 pages)
- Answer reading quiz online (Usually about 10 problems)

**During class:**
- 5 minutes reviewing misunderstandings from reading quizzes
- 10 minutes discussing particularly difficult or interesting course material from the reading
- 1 hour working on interactive exercises like Turingscraft, Problets, JavaBat exercises
  - Periodic interruptions for mini-lectures to discuss material that seems to be causing trouble for large numbers of people
The diagram above gives a big picture view of the design of the class. The key to successful learning is that loop in the middle between conceptual understanding, practice and feedback. The goal is to engage that feedback loop until your conceptual understanding is rock solid. This is the work of the class.

Reading assignments are where you develop your initial conceptual understanding. The online quiz gives me an early evaluation of your understanding that I can use to direct learning resources (through lectures and assignments, for example). The Turingscraft, Problets and JavaBat exercises are all practice with an immediate feedback loop. This makes it possible to improve your conceptual understanding quickly.

Turingscraft, Problets and JavaBat all use mastery learning. Each of these activities can be done as many times as you wish. Although these problems will be assigned on a daily basis in class, you can submit them up to the date of the next examination. The goal is to allow you to rework them until you feel confident that you have mastered the material. Please be warned that waiting until close to the examination to start the activities (for example by skipping class or not finishing assignments that are started in class) will almost certainly cause you to fail the course. Building conceptual understanding takes time and practice, particularly in a topic as complicated as computer programming.

Once you have your initial conceptual understanding developed, you will practice it with a partner during laboratory exercises, individually using homework (due about every two weeks), and eventually on an examination.

Homework and examinations are done individually, as I have to certify your individual conceptual understanding to be able to give a grade in the course.

**Course Policies**

**Class Home Page:** This class will use Desire2Learn software for our home page. The URL for the home page is [http://learn.ou.edu](http://learn.ou.edu). Login with your 4+4 (first four letters of your last name followed by the last four digits of your student number), using your standard OU password. If you have difficulty logging in, call 325-HELP. This software provides a number of useful features, including a list of assignments and announcements, an electronic mailing list, newsgroups, and grade book. I update this web site several times a week. You should check the site daily. When I update the site, I will post an announcement telling you what has been added and where it is located. You are responsible for things posted on the site with a 24 hour delay.
Class Email Alias: Urgent announcements will be sent through email. It is your responsibility to:

- Have your university supplied email account forwarded to the location where you read email.
- Make sure that your email address on the course home page is correct, and forwards email to the place where you read it. I’ll send out a test message during the first week of class. If you do not receive this message, it is your responsibility to get the problem resolved.
- Have your email program set up so that replying to your email will work correctly. You can send email to yourself and reply to yourself to test this.

If you need assistance in accomplishing any of these tasks, contact 325-HELP. You are responsible for reading emails within 24 hours.

Examinations: There will be three midterm examinations and a final examination. Missing an examination without a previously approved excuse will result in a grade of zero for that examination. Makeup examinations are only available when required by University policy, in other words, almost never.

Final Examination: The final examination is on Friday, December 13 from 4:30-6:30 p.m. in our classroom. The final is comprehensive, as required by College of Engineering policy. No final examinations can be given early, except as required by University policy.

Discussion Groups and Email: The discussion group on the course home page should be the primary method of communication outside of class. This allows everyone in the class to benefit from the answer to your question, and provides students with more timely answers since other students may be able to answer your questions. Matters of personal interest should be directed to email instead of to the newsgroup, e.g. informing me of an extended personal illness. Posting guidelines for the newsgroup are linked on the home page.

Laptop Computers: It is the responsibility of each student in this class to have a working laptop computer with ample battery and wireless internet connectivity available for every class and laboratory session. If your computer requires repair during the semester, it is your responsibility to make arrangements to have another computer available and get the necessary software installed before the class or laboratory time. A student without a fully usable laptop computer will be at a severe disadvantage in this class.

Academic Misconduct: When you pass this class with a grade of C or better, I am certifying to the world that you are a competent Java programmer. I cannot make this certification without seeing work that you did on your own. Homework and examinations should be the work of that single individual, not their friends and not their tutor.

1. Do not show another student a copy of your homework before the submission deadline.
2. Do not email your homework to another student, even if they promise they will not copy it.
3. The penalties for permitting your work to be copied are usually the same as the penalties for copying someone else’s work because it is virtually impossible for me to distinguish the person who copied from the person who allowed his or her work to be copied.
4. If you choose to do your work on your computer, make sure that your computer account is properly protected. Use a good password, and do not give your friends access to your account or your computer system.

5. Do not leave printouts or thumb drives around a laboratory where others might access them.

I sometimes use automated software to determine when student work is overly similar. The results of using this software are then evaluated manually by the instructor.

Upon the first documented occurrence of collaborative work, I will report the academic misconduct to the Campus Judicial Coordinator. If you are found to have committed academic misconduct by this process, the least penalty is usually failing the class, with suspension being a real possibility. The procedure to be followed is documented in the University of Oklahoma Academic Misconduct Code. In the unlikely event that I elect to admonish the student, the appeals process is described here: http://integrity.ou.edu/summary_of_the_process.html.

**Tutors:** Before you hire a tutor, remember that the TAs and I are available and glad to help students learn course material. The College of Engineering also hires tutors for this class. These tutors are in the second floor of the Engineering Practice Facility (west side) and in the Engineering Library in Felgar Hall. In addition to regularly scheduled office hours, I’m available in my office at many other times. If you email, I can often make an appointment. And I often answer questions through email. In other words, use the resources that the University provides to help you with this course before spending a lot of money getting help elsewhere.

Private tutors can be an excellent source of support for students who are having difficulty in the class, but only if the tutor is aware of the distinction between teaching you the material so that you ultimately can do your own work, and doing work for you. Tutors who do work for you are not only failing to help you learn, they are committing academic misconduct.

- If your tutor is methodically telling you what to write, he or she is abetting committing misconduct.
- If you tutor is emailing files containing partial or complete assignments to you, you will commit academic misconduct if you turn them in.

A more effective use of tutoring services is to do problems that are similar to the assigned work, instead of doing assigned work. For example, it would be fine to work unassigned problems from the textbook with a tutor. This requires significant discipline, both on the part of the tutor and on your part. Copying from a tutor is as unacceptable as copying from another student. If your tutor doesn’t know how to teach properly, please ask them to call or visit me and I will provide training and guidance. If you are tutoring someone else in the class, you can be accused of academic misconduct if you allow this person to copy your work.
Incompletes: The grade of I is intended for the rare circumstance when a student who has been successful in a class has an unexpected event occur shortly before the end of the class. I generally will not consider giving a student a grade of I unless the following three conditions have been met.

1. It is within two weeks of the end of the semester.
2. The student has a grade of C or better in the class.
3. The reason that the student cannot complete the class is properly documented and compelling.

Accommodation of Disabilities: The University of Oklahoma and I are committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with the professor as early in the semester as possible. Students with disabilities must be registered with the Office of Disability Services prior to receiving accommodations in this course. The Office of Disability Services is located in Goddard Health Center, Suite 166, phone 405/325-3852 or TDD only 405/325-4173.

Cancelled Classes: Classes are cancelled on the following days and for the following reasons.

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>Jan 21</td>
<td>Labor Day</td>
</tr>
<tr>
<td>Wednesday</td>
<td>March 16-24</td>
<td>Thanksgiving</td>
</tr>
</tbody>
</table>

Classroom Conduct: Disruptions of class will not be permitted. Examples of disruptive behavior include:

- Allowing a cell phone or pager to repeatedly beep audibly.
- Playing music or computer games during class in such a way that they are visible or audible to other class members.
- Exhibiting erratic or irrational behavior.
- Behavior that distracts the class from the subject matter or discussion.
- Making physical or verbal threats to a faculty member, teaching assistant, or class member.
- Refusal to comply with faculty direction.

In the case of disruptive behavior, I may ask that you leave the classroom and may charge you with a violation of the Student Code of Responsibilities and Conduct.

Projects, Homework, Quizzes, Attendance, and TuringsCraft

Language: We will be using the Java programming language (Java 7, Update 25).

Computer Literacy Expectations: A list of specific expectations for computer literacy is posted on the course home page. If you do not meet these expectations, it is your responsibility to remedy this situation immediately or drop this class.
**Timing:** The only way to learn programming is through practice. This course has many assignments to allow students to practice enough to become proficient and successful as programmers. The amount of time between when a homework assignment is given and when it is due will typically be a week or less. You should expect to devote some study time to this class every single day.

**Sharing Resources:** Office hours and laboratory sessions can become very busy immediately before a homework assignment is due. While the teaching team will make reasonable efforts to meet the needs of as many students as possible, it is often impossible to fully meet the needs of all students during this busy period of time. For example, if there are ten students in my office during a given office hour, each student could expect to receive about six minutes of help. This limited amount of help may not be sufficient.
**Paired programming:** During the laboratory, all programming will be done using a paired programming model. You will be paired with another student to solve a programming problem during the laboratory. If you don't attend lab you may not submit the assignments.

**Laboratory Projects:** Incomplete projects may be turned in for partial credit.
- Projects which do not compile will generally receive no credit.
- Beyond the first two projects, projects that do not execute will generally receive no credit.

**Laboratory Project Strategy:** The grades for projects are determined by how well the material presented meets the objectives stated on the project handout. If you and your partner have to turn in an incomplete project, the way to maximize the points received is to meet as many objectives as possible. One effective strategy is to meet objectives one at a time. If you save a copy of our current project to a separate directory when an objective is met, this can prevent many problems.

**Project Submission:** Projects are due at the end of the laboratory by uploading the .java file(s) (not the .class files) project files to the digital dropbox on the course home page. A single folder/file should be submitted. Late projects are not accepted. Do not wait for the last minute to submit a project. Submission is a two-step process. First you load the file then you submit it. Many students forget to submit. Specific instructions for submission are given on the learn website under content.

**Backup Copies of Projects:** It is your responsibility to back up your files appropriately. No extensions to deadlines will be given as a result of lost files, unless there is a massive, network wide problem which affects the entire class. Do not rely on anyone else to back up your important files. Buy a jump drive and make backing up your work a routine part of computer usage. Dropbox or other cloud services are also useful for this. Always back up your files at the end of the laboratory session. It is particularly important to save a backup copy of any homework or laboratory project that is submitted. This backup version should not be opened or edited after submission in case something goes wrong with the submission system (like forgetting to hit submit, or submitting the .class files instead of the .java files).

**Homework Submission:** Homework is due by 11:59 p.m. on the selected due date and submitted via the digital dropbox in a single document in PDF format. Homework must be word processed.

**Evaluation**

**Grade Corrections:** My TAs and I spend a lot of time carefully grading student work. Please take the time to review our grading to maximize your learning. This is the way that feedback that we provide improves your conceptual understanding. After homework and examinations have been returned, there is a one week period of time when grades can be disputed. After this time, the grades are final even if they are found to be in error. If there is a dispute about the grading of an examination problem, you may stay after class the day the tests are returned to discuss it. If you cannot stay at this time, return the paper to me and stop by during my office hours. Once a test has been removed from the classroom after it has been returned, the grade is final and will not be changed, even if it is found to be in error.
Desire2Learn Grade Summary: Desire2Learn has a grade book that is used to store the raw data that is used to calculate your course grade. It is the responsibility of each student in this class to check their grades on Desire2Learn after each project or homework is returned. If an error is found, bring the grading document to me, and we will correct it. The grade book does not understand how grades are actually calculated in this class. It therefore may show things like percentages and total points that may be incorrect. The correct formulas for calculating grades are given in this document.

Grading: There are 5 components to the course grade. They are weighted as follows.

<table>
<thead>
<tr>
<th>Item</th>
<th>% of Grade</th>
<th>Drop</th>
<th>Grader</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading quizzes*</td>
<td>5</td>
<td>3 lowest</td>
<td>Automated on learn</td>
</tr>
<tr>
<td>Classroom activities+</td>
<td>15</td>
<td>None</td>
<td>Automated by Turingscraft, Problets, and JavaBat</td>
</tr>
<tr>
<td>Laboratory activities</td>
<td>15</td>
<td>2 lowest</td>
<td>TAs</td>
</tr>
<tr>
<td>Homework</td>
<td>15</td>
<td>1 lowest</td>
<td>TAs</td>
</tr>
<tr>
<td>Examinations</td>
<td>30</td>
<td>1 lowest</td>
<td>Instructor</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20</td>
<td>None</td>
<td>Instructor</td>
</tr>
</tbody>
</table>

* Students will receive full credit for a reading quiz if they answer at least 50% of the questions correctly. This part of the grade will be based on the number of quizzes where the 50% standard is met.
+ Each Turingscraft exercise is worth one point. Each problets section is worth 10 points and graded based on the post-test exercises. Each JavaBat exercise is worth 1 point.

The percentage of the grade that comes from reading quizzes, classroom activities and laboratory activities is designed to be small to allow students to make mistakes and learn from them with only small penalties. However, completing these exercises is how most students develop the conceptual understanding that make it possible to do well on the homework, midterms and final.

The grading scale will be no higher than the following. It may be lower at the discretion of the instructor.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90+</td>
</tr>
<tr>
<td>B</td>
<td>80-89</td>
</tr>
<tr>
<td>C</td>
<td>70-79</td>
</tr>
<tr>
<td>D</td>
<td>40-69</td>
</tr>
<tr>
<td>F</td>
<td>Otherwise</td>
</tr>
</tbody>
</table>

Borderline Grade Decisions: Although it would be preferable that all grades are cleanly decided, it is usually the case that a few final course grades are decided by only a few points. I have an algorithm for determining grades in these difficult cases. A grade is a borderline grade if it is within two points of the next higher grade. Therefore, grades like 69 and 78 are borderline grades, but grades like 81 and 92 are not. The grade on the final examination will be used to determine borderline grades. If the grade on the final is below the threshold for the higher grade, the lower grade will be given. If the grade on the final is above the threshold for the higher grade, the higher grade will be given.