Syllabus **-** Computer Sciences 312 -Introduction to Programming
The University of Texas at Austin · Fall 2014

Description: Computer science encompasses a wide range of topics and skills designing and building computer devices (e.g., your cell phone, laptop, cleaning robots), designing and building programming languages (e.g., Java, Python, C) and the supporting software that control these devices (e.g., operating systems, compilers), and the actual applications themselves (e.g., reading an x-ray, video animation, voice mail). This course focuses on how to write computer programs that solve problems on a general purpose computer.

Programming languages are one of the key tools that computer scientists design and use to help themselves and others use computers to solve problems. This course uses a particular programming language, Java, to introduce you to how to use a computer to solve your problems. In this course, most of your learning will take place when you are putting in to practice the concepts from the book and lectures to solve more and more complex problems using more and more sophisticated programming practices. You will learn by doing. Performance on the programming assignments and performance on exams correlate closely.

Objectives: This is a first course in computer programming. The purposes of the course are to learn fundamental computer science concepts including algorithm development, problem decomposition, data types, variables, parameters, decision making, iteration, arrays, and 2D arrays. By the end of the course students are expected to be able to implement programs consisting of several programmer defined data types and several hundred lines of code employing non trivial algorithms.

Estimates of the required effort to pass the class are:

- 3-5 hours per week of studying
- 2-10 hours per week of programming (less early in the course, more later)
- 800 lines of Java code.

Prerequisites: Credit with a grade of at least C- or registration for Mathematics 408C, 408K, or 408N..

Discussion Sections:

Unique ID	Lecture	Discussion Section Time	Section Location	Section TA	Section Grader
52821	10 - 11 am MWF [UTC 2.112A](#)	Monday, 11 am - 12 noon	[GDC 4.302](#)	Tamara	Tamara
52827		Monday, 1 - 2 pm	[GDC 4.302](#)	Eric	Donghyuk
52828		Monday, 2 - 3 pm	[CLA 1.108](#)	Aaron	Aaron

52800		Friday, 9 - 10 am	CBA 4.326	Eric	Eric
52805	11 am - 12 noon MWF WEL 2.122	Friday, 10 - 11 am	SZB 330	Stas	Stas
52815		Friday, 12 noon - 1 pm	CLA 0.106	Aaron	Aaron
52820		Friday, 1 - 2 pm	SZB 284	Jose	Jose
52825		Friday, 2 - 3 pm	RLM 5.114	Dory	Dory

- Students **must** attend the discussion section for which they are officially registered.
  Look at your class schedule on UT Direct or Canvas to verify your unique course number.

Teaching Staff:

- **Instructor,** Mike Scott, email: scottm@cs.utexas.edu office: GDC 6.304 .
  Office Hours: Monday and Wednesday 2 - 3:30 pm, Fridays 8:30 - 9:30 am. If you cannot make these hours email me to request an appointment.
  Office hours are held in the 3rd floor computer lab in the Gates CS complex.

- **Undergraduate Teaching Assistants**

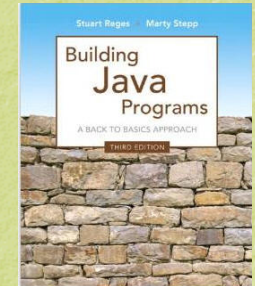| Name	Email	Lab Hours
Aaron Dishman	aaron.dishman@utexas.edu	Monday 12 - 1 pm
Eric Lane	e.lane@utexas.edu	Wednesday 1 - 2 pm
Tamara Warton	tamarawarton@utexas.edu	Monday and Friday 4 - 5 pm
Dory Glauberman	dory@glauberman.com	Tuesday and Thursday 1 - 2 pm
Jose Ramirez	joseramirez1000@utexas.edu	Tuesday and Thursday 3 - 4 pm
Svyatoslav (Stas) Ilinsky	stasi@utexas.edu	Tuesday and Thursday 12 - 1 pm

- **Grader**

Donghyuk Shin, email: dshin@cs.utexas.edu

Required Materials:

1. *Building Java Programs: A Back to Basics Approach plus MyProgrammingLab with Pearson eText -- Access Card Package (3rd Edition)*, Publication Date: March 7, 2013 | ISBN-10: 0133437302 | ISBN-13: 978-0133437300 | 3rd Edition, Pearson Education / Addison Wesley.

   Textbook homepage is http://www.buildingjavaprograms.com/.

2. Purchase an **iClicker** (a remote control device) from the Co-op bookstore or the iClicker website.

   Be sure you get the "iClicker" brand. We are using iClicker+ but the iClicker2 or original iClicker will work as well.

3. **MyProgrammingLab Access:** You are required to do exercises in MyProgrammingLab as per the schedule on the schedule page. You will be graded on these. The required textbook includes an access code to my programming lab. You can also purchase an access code separately.

Class web site: http://www.cs.utexas.edu/~scottm/cs312. Course materials and announcements are available there.

Startup: Most of the things you need to do to set up your infrastructure for the class are on the startup page.

Conduct in Lecture and Section: I implore you to not use class time to e-mail, update your Facebook page, instant message, etc. If you are addicted to the your smartphone, laptop, or tablet, consider this class your social media free zone. Further, I guarantee you that you will not do well in the course if you are simply looking up long enough to type out what's on the projector screen before you return to see whether somebody 'liked' your comment about the Cheerios you had for breakfast. In fact, the empirical research on this topic is clear: people are incapable of learning and retaining information when they are multi-tasking on their computers (and it's a distraction to the people sitting

around you that are trying to learn something).

Class Participation, iClicker

- Purchase an **iClicker** (a remote control device) from the Co-op bookstore or the iClicker website.

  Beware: There may be several incompatible brands of remote control devices on sale. Be sure you get the ``iClicker'' brand. For a picture of one, see the iClicker web site. We are using the iClicker+, not the iClicker 2, although the iClicker 2 or original iClicker will work.. The Co-op will buy back the iClicker for about half the current price. I recommend that you put a piece of transparent tape across the serial number on the back of your iClicker to prevent it from being rubbed off with use. **The serial number is important when you register the iClicker (see the next step) and you want it intact when/if you sell the iClicker back to the bookstore.**

- Register your iClicker at http://www.iclicker.com/support/registeryourclicker/. **You must register at the iClicker website for this course, not on Canvas.**
  Register by providing:
    - your first name
    - your last name
    - your UT EID (which they call your "student ID'")
    - your clicker's ID (the serial number under the bar code on the back of the device)

  Even if you already have a iClicker and registered it in the past you must reregister for this semester.

- Bring your clicker to every lecture. **Participation on the clicker questions is graded.**
- **In order to get credit for a given day you MUST:**
    - **register your clicker prior to class and**
    - **have your functioning clicker with you and**
    - **answer one or more of the clicker questions during class.**
- **If you do not meet these requirements you will not receive clicker credit for that day.**
- **You can only receive credit by attending Mike's lectures.**

Class Discussion Tool: I have set up a discussion group for the class on Piazza.

- Go to the Piazza web site and join the CS312 - Scott group for The University of Texas at Austin.
- I will post class announcements and information to the discussion group.
- Post your questions about the class to the discussion group.

- Piazza is an official communication channel for this course.

Email: All students must become familiar with the University's official e-mail student notification policy. It is your responsibility to keep the University informed as to changes in your e-mail address. You are expected to check e-mail on a frequent and regular basis in order to stay current with University-related communications, recognizing that certain communications may be time-critical. It is recommended that e-mail be checked daily. The complete text of this policy and instructions for updating your e-mail address are available at http://tinyurl.com/pm6ej6e which includes instructions on how to update the email address you have on record with UT.

You are responsible for checking your e-mail and the class discussion group regularly for class work and announcements.

Software: Required software for programming assignments is described on this web page: http://www.cs.utexas.edu/~scottm/cs312/software.htm

Computing Facilities:

- **UTCS Microlabs.** PCs and Linux machines are available for assignments in the CS Department microcomputer lab located on the 1st and 3rd floors of GDC, Dell Hall (north wing). You are free to work on your own computer if you wish.

CS Lab Account:

- Students must obtain an account for the CS department microlab. Visit this website to request account: https://apps.cs.utexas.edu/udb/newaccount/ (If you had an account the previous semester it should renew automatically.)
- Accounts take at least a day for account to become active. Please request your account as soon as possible. Even if you do not work in the lab, you will use this account to turn in your homework.
- These accounts are only for the CS microlab, and not any other labs or networks at UT. This account is not the same as your UT Direct account.

Schedule: A schedule of lecture topics, reading assignments, and assignment distribution and due dates is available online, via the class web page, www.cs.utexas.edu/~scottm/cs312/schedule.htm. The schedule page contains links to slides for the lectures, assignments, and online readings. Readings are to be completed **before** class. The schedule is subject to change.

Exams: In order to effectively evaluate your understanding of course material there will be two out of class midterms. If you have a conflict with a midterm please email the instructor as soon as possible and we will work out an alternate time.

- Midterm 1: Wednesday, October 1, from 7 - 9 pm, UTC 2.102A (Covers topics 1 - 12 from the schedule.)
- Midterm 2: Wednesday, November 13, from 7 - 9 pm, ECJ 1.202 and PAI 3.02 (room assignments will be posted to Piazza) (Covers

topics 1 - 25 from the schedule.)
- **The final exam will be at a UNIFORM time with the other sections of CS312. (Not the time listed in this page.) The date could be as late as Tuesday, December 16. The Registrar will publish uniform final exam dates in early November.**
- All exams are cumulative

Grading: Class components used to determine your final average:

Component Type	Number	Points	Total Points
Assignments	12	1st, 10 points all others: 20 points	230
Quizzes	8	10 each	80
iClicker Participation	40	1 per day	40
My Programming Lab Exercises	10	3 per set	30
Exam 1, 10/1	1	150	150
Exam 2, 11/5	1	200	200
Final Exam	1	300	300

- Grades will be maintained on the University Canvas site.

- Programming assignments, iClicker participation, myProgrammingLab exercises and quizzes can count no more than 350 points towards your final average. Programming assignments, iClicker participation, myProgrammingLab exercises, and quizzes add up to 380 points. There are 30 points of "slack" in these non-exam components. This slack (and slip days explained below) is to account for any problems that may occur during the semester that cause you to miss one of these non-exam components. (Such as illness, family emergencies, hardware problems, etc.)

  Quizzes, myProgrammingLab exercises, and iClicker participation cannot be made up for any reason. For programming assignments there is some leeway. See the explanation of slip days below.

- The final letter grades will be assigned based on your total points out of 1000 points. The grade cutoffs are: <600 = F, 600 - 699 = D, 700 - 799 = C, 800 - 899 = B, >= 900 = A. Plusses and minuses (+ and -) will be assigned to scores within 25 points of the cut offs. So

for example total points 875 to 899 earn a B+ and total points 900 to 924 earn an A-.

- Note, points are not added to your final total. The "slack points" are handled by basing your final average on 1000 points instead of 1030 points. There are 1030 points available in the course. Non-exam component points are capped at a maximum of 350. In other words, earning more than 350 points on the non-exam components will NOT result in points being added to your exam point total. This means Canvas may overestimate your grade in some cases.

- Depending on the results of an exam, exam scores may be adjusted. If so, exam scores may stay the same or improve. Exam scores will never get worse due to a adjustment. No other class components (assignments, clicker participation, or quizzes) are curved.

- You have 6 slip days (max of 2 per assignment) to use through out the term on your assignments if you are not able to turn an assignment in on time. See the assignments page for details of the requirements for turning in assignments and how slip days work. www.cs.utexas.edu/~scottm/cs312/Assignments/index.htm. Slip days are to account for life circumstances (My hard drive crashed!! I got a virus downloading an mp3!!) and emergencies. Do not use your slip days frivolously. If you use up your slip days and late assignments will not be graded and be assigned a grade of 0. failure to follow instructions on turning in assignments may result in the loss of slip days.

- The required format and procedures for turning in assignments are available at www.cs.utexas.edu/~scottm/cs312/Assignments /index.htm.Assignments that are not turned in to the correct directory in the correct format will cause you to lose slip days, lose points, and/or receive a 0 on the assignment.

- Quizzes are given at the beginning of most discussion sections. If you are not present when the quiz is completed you receive a 0 for that quiz. Quizzes cannot be made up under any circumstances. Quizzes are not curved. Quiz grading will be: 10 for a perfect quiz, 7 - 9 for minor mistakes, and 6 or less for little or no effort.

- If a student misses a midterm exam with a verifiable excuse the remaining exams will count for the missed exam.

- If you believe we have made an error in grading an assignment, you must submit your complaint via email, along with supporting evidence, to your grader within *__5 days__* of the date the teaching staff first attempted to return the assignment or test to you. (This includes posting notices on Piazza.)

- Questions about your grade are to be sent to the grader assigned to your section. See the table above for graders and section unique ids.

- You may request a regrade of an exam if you feel the grading criteria was not applied correctly. To ensure accuracy the entire exam will be regraded and your score may go down.

- There are no opportunities for extra credit in this course.

Of the 916 students who have taken CS312 with me:

- **72%** of the students earned a **C- or higher: 33% A's, 25% B's, 14% C's**
- **15%** earned a **D or F.**
- **13%** dropped or withdrew from the class, grade symbols **Q or W.**

Guiding Principle - No whining: Feedback and concerns about the course are always welcome; legitimate grading errors that are identified in a timely fashion will certainly be corrected, but whining is counter-productive and will only irritate those who evaluate your work to determine grades.

Important Dates for Changing Academic Status and Dropping the Course: Refer to the Registrar's academic calendar for the deadlines for changes in academic status. Highlights are:

- Tuesday, September 2: Last day of the official add/drop period; after this date, changes in registration require the approval of the department chair and usually the student's dean.
- Friday, September 12: (12th class day) Last day to drop for a possible refund. Last day to add a course.
- Tuesday, November 4: Last day an undergraduate student may, with the dean's approval, withdraw from the University or drop a class (Q drop) except for urgent and substantiated, nonacademic reasons. Last day a student may change registration in a class to or from the pass/fail or credit/no credit basis.
- After Tuesday, November 4, students must go to the academic advisors in their college Dean's office if they wish to drop or withdraw from the class.
- To be eligible for an **incomplete (UT uses the symbol X to indicate incompletes)** you must have a letter grade of **C-** or better and a written, verifiable excuse for missing the last test. This is a **necessary** but **insufficient** condition for receiving an incomplete.

Students experiencing significant nonacademic problems (extended health problems or family emergencies) should contact the CNS Dean's Office (WCH 1.106, (512) 471-4536) or the Dean of Student's Office (http://deanofstudents.utexas.edu/emergencyresources.php) for assistance.

See the College of Natural Science Guidelines and Procedures page for more information. (http://cns.utexas.edu/advising/guidelines-procedures)

University Code of Conduct

The core values of the University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the University is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.

Academic Honesty: Taken from the CS department Code of Conduct.

"The University and the Department are committed to preserving the reputation of your degree. It means a lot to you. In order to guarantee that every degree means what it says it means, we must enforce a strict policy that guarantees that the work that you turn in is your own and that the grades you receive measure your personal achievements in your classes:

==Every piece of work that you turn in with your name on it must be yours and yours alone unless explicitly allowed by an instructor in a particular class. Specifically, unless otherwise authorized by an instructor:==

- Students may not discuss their work with anyone except the instructor and other members of the instructional staff (instructor, TA, lab proctor or partner on a pair assignment).
- Students may not acquire from any source (e.g., another student or an internet site) a partial or complete solution to a problem or project that has been assigned.

You are responsible for complying with this policy in two ways:

1. You must not turn in work that is not yours, except as expressly permitted by the instructor of each course.
2. You must not enable someone else to turn in work that is not theirs. Do not share your work with anyone else. Make sure that you adequately protect all your files. Even after you have finished a class, do not share your work or published answers with the students who come after you. They need to do their work on their own. This means do not post your solution code to any public web site such as pastebin. Also, do not post your work to the web even after you have completed CS312.

The penalty for academic dishonesty will be a course grade of F and a referral of the case to the Dean of Students. Further penalties, including suspension or expulsion from the university may be imposed by that office.

One final word: This policy is not intended to discourage students from learning from each other, nor is it unmindful of the fact that most significant work in computer science and in the computing industry is done by teams of people working together. But, because of our need to assign individual grades, we are forced to impose an otherwise artificial requirement for individual work. In some classes, it is possible to allow and even encourage collaboration in ways that do not interfere with the instructor's ability to assign grades. In these cases, your instructor will make clear to you exactly what kinds of collaboration are allowed for that class."

For CS312 the policy on collaboration is modified as follows:

If you are repeating the course you may reuse code you completed on your own. You may NOT use code from a program you worked on as part of pair or code that was from a program involved in an academic dishonesty case. You must start from scratch on any and all programs that:

- **were part of an academic dishonesty case**
- **you worked with a partner during a pervious semester**
- **you are working with a partner this semester**

You are encouraged to study for tests together, to **_discuss_** methods for solving the assignments, to help each other in using the software, and to discuss methods for debugging code. **Essentially if you _talk_ about an assignment with any one else you are okay, but the moment you start _looking at someone else's source code_ or _showing someone else your source code_ you have crossed the line into cheating.** You should not ask anyone to give you a copy of their code or, conversely, give your code to another student who asks you for it. Similarly, you should not discuss your algorithmic strategies to such an extent that you and your collaborators end up turning in exactly the same code. **Discuss** high level approaches together, but do the coding on your own.

Examples of cheating are many and include accessing another student's account, looking at someone else's solution code, copying or downloading someone else's solution code, referring to solutions from previous semesters, having another student walk you through the solution and how to code it, having another student perform significant debugging of your code, having antoher student write your code for you and / or allowing others to copy of access your solution code. This means you **shall not** look on the internet for code to solve your problems.

Examples of allowable collaboration include discussions and debate of general concepts and solution strategies and help with syntax errors.

The code you can reuse in this course are:

1. **You may use any code you develop with the instructor, TAs, or proctors.**
2. **You may use code (with attribution) from the class slides and the class coding examples.**
3. **You may share additional test cases and expected results of test cases. You may not share solution code or experiment code.**

You shall not make use of code you find from other sources including the world wide web. Materials from the web should only be used for educational purposes. Thus, you can read about linked lists and look at examples of linked list code, but you must not copy any code from the web or be looking at any of this code from the web when writing anything you turn in. If you discuss an assignment with another student or look at examples from the web you should employ the World of Warcraft Rule:

World of Warcraft Rule: After a discussion with another student or looking at example code you should do something that has nothing to do with computer science or programming for al least half an hour. Playing World of Warcraft or other similar activity. (Watching a sitcom, reading a book, working on another class.)

You are also allowed to post short segments of code (2 lines or less) of code that are giving you syntax errors to the class listserv in order to get help on fixing the syntax error.

If you have any doubts about what is allowed, ask the instructor.

Plagiarism detection software will be used on assignments to find students who have copied code from one another.

For more information on Scholastic Honesty and the UT Honor code see see the University Policy on Scholastic Dishonesty

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Religious Holidays: By UT Austin policy, you must notify me of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, you will be given an opportunity to complete the missed work within a reasonable time after the absence.

Students with Disabilities: students with disabilities may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities, 471-6259, www.utexas.edu/diversity/ddce/ssd/.

To the CS 312 home page