CS1325.501 – Introduction to Programming

Fall 2016

Syllabus

Contact Information

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Lecture: Tuesdays and Thursdays, 7 to 8:15 PM @FN 2.106
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Grader of the other section: Avinash Chandrasekharan (for tutoring only)
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Note: Email is the best way to reach me, and your email must have a subject title starting with "CS1336.010". Remember to sign your email, so I know where it is coming from. That will help me respond to you sooner.

Course Description

Introduction to Programming (3 semester credit hours) Computer programming in a high-level, block structured language. Basic data types and variables, memory usage, control structures, functions/procedures and parameter passing, recursion, input/output. Programming projects related to engineering applications, numerical methods. May not be used to satisfy degree requirements for majors in Computer Engineering, Computer Science, Software Engineering, and Telecommunications Engineering. (3-0) S

Prerequisites and Corequisites

Prerequisite: **CS 1336** or equivalent.

Textbook and Material

Textbook

Reference textbook: *C How to Program*, 8th Edition, by Deitel, Pearson.

Personal Devices

Please bring a laptop or equivalent to type in code and run a browser. It will be needed for the quizzes and exos. If you are not able to bring a device, please contact me.

Student Learning Objectives

The **Course Learning Objectives** (CLO's) for this course are as follows:

1. Ability to use fundamental programming constructs: assignments, loops, conditions.
2. Ability to process data in arrays.
3. Ability to develop programs in a functional form.
4. Ability to perform sequential file input and output.
5. Ability to express algorithms that solve elementary engineering and scientific problems.

Grading

Your letter grade will be determined from an overall numerical score, calculated as a weighted average with the weights below:

Weight of test #1 score:	35%
Weight of test #2 score:	35%
Weight of homeworks average:	25%
Weight of quizzes average:	5%

The overall numerical score is possibly curved and then converted to a letter score, as follows. If there is curving, it will always be in your favor. For example, if you have an overall numerical score of 91 before curving, you are guaranteed to get at least A-.

In addition, if you are borderline, at my discretion, I may decide, at my discretion, to bump you up based on the following criteria:

- Class attendance and citizenship
- Improvement throughout the semester

Overall numerical score (possibly curved)	Grade
≥97	A+
≥93	A
≥90	A-
≥87	B+
≥83	B
≥80	B-
≥77	C+
≥73	C
≥70	C-
≥67	D+
≥63	D

≥60	D-
Less than 60	F

Important notes:

- **In order to receive a grade higher than a D+, you must meet both of the following requirements: (1) have a test average of at least 70 points AND (2) have a homeworks average of at least 70 points.**
- **According to the new CS department attendance policy, if you have three consecutive unexcused absences, your grade will be automatically downgraded by one letter grade. For example, an A- would be downgraded to a B-. If you have 4 consecutive unexcused absences, your grade will automatically be an F.**

Tests

- Each test covers all the handouts + information given during lectures + homeworks + class discussions + exos + quizzes, up to the exam. This means test #2 is a comprehensive exam
- Electronic devices (e.g. computers, laptops, cell phones, tablets) and backpacks will not be allowed at desks during tests
- Closed book, closed notes
- Tests are taken on eLearning. Types of questions that may be found in tests are essay, true/false and multiple choice questions. By essay, I mean any question for which you do not answer simply by checking a box
- Each test is graded out of 100
- You are required to take the tests on the regular date. Exceptions to this policy are only made in very rare circumstances, typically due to unforeseen circumstances such as a medical or family emergency. All makeup exams are scheduled and given at the discretion of the instructor. They are only given to students who contact the instructor prior to the originally scheduled exam date/time, or for a justified emergency with documentation.

Homeworks

- Homeworks are programming projects designed to supplement our class discussions and the textbook, and give you an opportunity to practice the concepts learned. You will have a week to do each one.
- All homework assignments will be submitted to eLearning. The TAs will download them, grade them, and upload the resulting grade with comments in the "Feedback to Learner". Read the "Feedback to Learner" to learn about what mistakes, if any, you made so you can learn from your mistakes.
- Each individual homework assignment will be graded out of 100.
- The homeworks average is the average of all the individual homework assignment scores.
- The homeworks average is a score out of 100

Submission Policies

- Late homework submissions will be accepted. An assignment that is turned in late, but is still within the first 24 hours after the due date, will receive a 20% penalty on the grade. That is, the homework is graded normally, and the score is multiplied by 0.8 to yield the actual score for that homework. An assignment that is turned in more than 24 hours late will receive no credit.
- All submissions must be your individual work. If you get help from others, you must ensure that you submit only work that you have personally done. Non observance of these rules

may be considered as academic dishonesty and handled accordingly. There are no group assignments in this class.

Quizzes

- Quizzes usually take place about a week after a section or chapter has been completed.
- They are designed to help you check and consolidate your understanding of the section's or chapter's material, and prepare you for the tests and homeworks.
- Quizzes are taken in class and could be true/false, multiple choice or essay questions. The questions relate to the key points of the section or chapter that has been covered
- There is no makeup quiz. If you miss a quiz due to an unexcused absence, you will get no credit.
- The maximum achievable score on each individual quiz may vary from quiz to quiz, as it depends on the number of questions in the quiz
- The quizzes average is the weighted average of the quiz scores, where the weight of a quiz is proportional to the maximum achievable score of the quiz. The average is normalized to be a score out of 100. For example, assume there are 3 quizzes, and quiz-1, quiz-2 and quiz-3 have 10, 20 and 30 questions respectively. If each question is 1 point, the maximum achievable scores of quiz-1, quiz-2 and quiz-3 are 10, 20 and 30 respectively. The quizzes average is (s1+s2+s3)*100/(10+20+30), where s1, s2 and s3 are your scores on quiz-1, quiz-2 and quiz-3 respectively.

In-class Exos

I often teach the programming concepts by illustrating them with a live program that I type, compile and run as a demonstration in class. You will be asked to type, compile and run the same program along with me in class, and you will have to submit your program on eLearning before the end of the lecture. Your program will not be graded, the main purpose of the exos are to engage you in the learning and take your attendance.

Class Attendance and Citizenship

- Class attendance
    - Students who regularly attend class tend to make significantly higher grades than those who do not.
    - Attendance record is based on quiz participation and in-class exo submissions. Attendance record can also be taken at the discretion of the instructor
- Citizenship
    - Good citizenship, which is behavior demonstrating effort to learn and respect of other students' effort to learn
    - You are encouraged to participate in class discussions and ask questions, whether in class or out
    - Disruptive behavior in class is not tolerated.
    - You are expected to be on time and stay till the end of the lecture. If you ever need to leave early or come late, you must minimize disruption to the lecture.
- Class attendance and citizenship will be a consideration for possibly bumping you up if you are a borderline case.
- Some absences are automatically excused by the school and won't count against you. These include absences for sporting events (if you're a member of a UTD sports team) and other situations. If any of these apply to you, you have to contact me beforehand and we'll make

arrangements for it. In addition, absences for medical reasons will be excused with documentation.

Issues about Grading

Grade Dispute: Students are required to bring up any grading issue within a week of grade posting.

All homework assignments will be graded by the graders. Therefore, if you have any questions concerning the homework gradings, please email the grader about it first. Please copy me on all your emails with the grader so I am aware of the situation and can make sure it is resolved. Note that even if you were to approach me first, we would still have to go back to the grader to find out what happened. Consequently, it will save time on all sides if you simply start with the grader when you are trying to resolve a homework related problem.

If for any reason you are dissatisfied with the result, please come see me about the issue and we will get it straightened out. You have every right to pursue any issue that concerns you. I'm on your side and will always work with you to find a reasonable solution.

We encourage you to be very proactive on this point. Any issue that concerns you also concerns us by definition, and we will do whatever we can to help you. But you must take responsibility for addressing the issues in the first place. In general, it is very important to understand why you missed any points, whether on homework assignments or on an exam.

Course Tools

Communication

Assignments, grades and announcements are posted on eLearning. Announcements are also emailed out to the whole class. In addition, you may also receive individual emails from me or the grader. It is your responsibility to logon to eLearning and check your UTD email to stay abreast of assignments, announcements and other information.

Programming Tools.

All of the programs we write this semester will be in C++, and we will be using C++ compilers to generate them. It is not required that you use a particular C++ compiler. It is, however, essential for grading that the TA's are able to compile and run your programs on their machines. It is your responsibility to make sure your programs can be compiled by the TA.

If you intend to use your own computers to write the class assignments, it is important that you get a compiler downloaded, installed, and running on your computer as soon as possible. If you don't have a computer, or if you're having problems getting a compiler installed, you should write your programs in the labs until the problems are resolved. In any case, please note that you are responsible for getting the programming assignments written and turned in on time. Since there are many computers available on campus, problems with your local machines will not be accepted as an excuse for not doing the assignments.

More details on the programming tools and the compiler will be posted on eLearning.

Help Desk

For help with issues regarding your computer, UTD maintains a walk-in help desk. Visit their Web site for details:

http://www.utdallas.edu/ir/helpdesk/

Schedule (tentative, may be adjusted as needed)

Date		Lecture
Aug 23	1	Review of syllabus, unit 1-1: Introduction
Aug 25	2	Unit 1-2: Number systems
Aug 30	3	Unit 1-3: Data types, intro to pointers
Sep 1	4	Unit 1-4: Formatted I/O
Sep 6	5	Unit 1-4: Formatted I/O
Sep 8	6	Unit 2-1: Operators and expressions
Sep 13	7	Unit 2-1: Operators and expressions
Sep 15	8	Unit 2-2: Control structures
Sep 20	9	Unit 3-1 and 3-2: Functions, random generators, scope and storage
Sep 22	10	Unit 3-1 and 3-2: Functions, random generators, scope and storage
Sep 27	11	Unit 3-1 and 3-2: Functions, random generators, scope and storage
Sep 29	12	Unit 4-1 and 4-2: Arrays
Oct 4	13	Unit 4-1 and 4-2: Arrays
Oct 6	14	Unit 4-1 and 4-2: Arrays
Oct 11	15	Unit 5-1 and 5-2: Pointers
Oct 13	16	Cushion for test review
Oct 18	17	Test review
Oct 20	18	Test #1 (at Testing Center) - Go to http://www.registerblast.com/utdallas/Exam to reserve your seat – You will be able to sign up 6 to 8 weeks before the test
Oct 25	19	Unit 5-1 and 5-2: Pointers
Oct 27	20	Unit 5-1 and 5-2: Pointers
Nov 1	21	Unit 5-1 and 5-2: Pointers
Nov 3	22	Unit 6-1 and 7-1: Structures, self referential structures and linked lists
Nov 8	23	Unit 6-1 and 7-1: Structures, self referential structures and linked lists
Nov 10	24	Unit 6-1 and 7-1: Structures, self referential structures and linked lists
Nov 15	25	Unit 6-1 and 7-1: Structures, self referential structures and linked lists
Nov 17	26	Unit 9: File processing
Nov 22		Break
Nov 24		Break
Nov 29	27	Unit 9: File processing
Dec 1	28	Unit 8: Character and string processing
Dec 6	29	Test review

Dec 13		Test #2 (at Testing Center) - Go to http://www.registerblast.com/utdallas/Exam to reserve your seat – You will be able to sign up 6 to 8 weeks before the test

Homeworks and quizzes take place throughout the semester.

University's Policies and Procedures

Please go to http://go.utdallas.edu/syllabus-policies for information on the university's policies and procedures, which include in particular:

- Student Conduct & Discipline
- Academic Integrity
- Withdrawal from Class
- Student Grievance Procedures
- Incomplete Grade Policy
- Disability Services
- Religious Holy Days

These descriptions and topics are subject to change at the discretion of the Instructor.