CS 1101	**Syllabus**	**Summer 2021**
CS 1101	MTWRF 10:45am - 11:50am	ONLINE

Instructor: Julio César Urenda Castañeda
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Online Course Access Points
   Announcements: Piazza
   Homework and Quizzes: Gradescope
   Synchronous Meetings and Exams: Blackboard

Lab Objectives: Students will learn the foundations of algorithmic thinking and algorithm development, and learn how to implement them in a variety of languages. They will also learn to be active learners. They will develop problem-solving skills and build team skills, critical-thinking skills, and professionalism.

Knowledge and Abilities Required Before Entering the Course: Students entering the course are not required to have a background in Computer Science or programming. They should be familiar with topics from Precalculus, including algebraic functions, proofs, and base representations of numbers.

Prerequisites: MATH 1508 or MATH 1411 with a grade of C or better.

Corequisites: You should be enrolled in CS 1301 or have already pass it.

Topics covered this semester: The semester (8 weeks) will be structured in four phases:

- During the first phase, we will cover algorithms, abstraction, memory and variables, including arrays. We will also go over conditionals and repetitions as they appear in our daily lives.

- In the second phase, we will introduce how conditionals and repetitions as loops can be used in algorithm design and in java, blending this with methods.

- During phase 3, we will introduce recursion and will practice integrating the essential components presented in phases 1 and 2 with recursion.

- Finally, in our last phase, we will learn about user-data types and introduce the use of linked lists.

Textbook: *Introduction to Java Programming, Comprehensive Version 10th Edition by Y. Daniel Liang.* We will skip some sections, as announced in class. The textbook is required at all class meetings.
   Secondary Text: Introduction to programming in Java : an interdisciplinary approach by Robert Sedgewick and Kevin Wayne. Both of these books are available at our library.

Software: Software used in this course is available on the desktop computers in the main computer lab and in the two instructional labs on the first floor. To use the course software on your home or laptop computer, instructions will be given in the labs.

It is your choice to use your personal computer or UTEP's desktop to complete the labs assigned to you. However it is essential that **you be able to show your work anytime we ask you for it in lab.** For instance we will not accept that "your work is on your laptop – or somewhere else – and you cannot produce it at the time we request it". To avoid such situation you could for instance use Dropbox (dropbox.com on which you get extra free space based on your utep.edu address) and hence make sure that you can access your work from anywhere. Any option you pick, you need to be able to produce your work at any time in lab for our review and grading. There will be no exception to this rule.

Note: You should be enrolled in one lab section. Do not drop in on a lab or lecture section other than yours without prior approval from your instructor.

Grading: Grades are communicated to students in a timely manner. It is the students' responsibility to keep track of their grades by compiling the grades they receive. Your semester grade will be based on

a combination of lab assignments, homework assignments, pop quizzes and in-lab assignments, and lab participation.

- 58% Lab assignments (between 8 and 10 per semester)

- 12% Homework

- 25% Pop quizzes and in-lab assignments

- 5% Lab participation (includes on-time attendance, participation in labs, any quizzes for attendance and survey purposes)

The nominal percentage-score-to-letter-grade conversion for CS 1101 is as follows:

- 90% or higher is an A

- 80-89% is a B

- 70-79% is a C

- 60-69% is a D

- Below 60% is an F

Note: You must earn a C or better in each of these two courses, CS1301 and CS1101, to continue to the next course in this sequence, which is CS2401. In order to pass CS 1101 you need to:

- Earn a C or better overall

- AND have submitted all 3 comprehensive labs and obtain at least a C average on them

- AND out of the last 5 labs, submit at least 3 and obtain at least a C in each

Expectations:

Lab assignments are designed to allow you to practice the topics that constitute the outcomes of this course. Lab assignments will be either:

- Regular lab assignments meant to provide practice on a couple of very specific topics covered at that time of the semester (8 to 10 total); or

- Comprehensive lab assignments (3 total) meant to check the acquisition of a broader set of skills, already addressed earlier in the semester in regular programming assignments.

Regular and comprehensive lab assignments will not weigh the same. Comprehensive labs will weigh more and will usually require more time to complete. Also, please note that, to pass this class, students need to obtain a C average on the 3 comprehensive labs. All lab assignments will include a part that has to be done without a computer: the description of the algorithms you designed to address the problems at hand. Such algorithms are not written in code as it is really important that students understand, early on, that computer science is about designing ways to solve problems and that these approaches (algorithms) most usually do not depend on any specific language.Deadlines for lab assignments will be clearly specified in the description of each assignment. Assignments turned in up to three days late will have scores reduced by 15% for each day of lateness. When assessing labs, TAs will spend 5 to 10 minutes with each students asking probing questions about the topics covered in the assignments: these questions will be asked regardless of whether you completed the assignment or not. This allows you flexibility, in case something happened and you were not able to complete an assignment, to make up for some points.

Quizzes and in-class assignments: The purpose of each quiz and in-class assignments is to ensure that you are staying current with the weekly assignments and to verify that you have acquired the skills developed in lab so far. Individual checks on the homework where the TA asks a student to explain his or her work will also count towards the quizzes and in-class assignments grade. There will be no make-up on missed quizzes, in-class assignments, or homework checks, so attendance is crucial.

Homework: Homework will be assigned weekly from the online textbook of the course. They will be the challenge activities of this book (as participation activities will be assigned as homework for CS1301) and

assignments from other web-based sources. Completing homework on time is essential to staying on track with the work done in lab. Homework will be assigned with plenty of time for students to complete it. Lateness to complete the assigned homework will be penalized by 5 points per day of lateness.

Lab Participation: Attendance at and participation in all lab sessions are critical factors of your success in this lab course. Students should be on time for all scheduled sessions and attend the entire session. Attendance will be taken at every session and will count towards your class participation grade. Students should notify the instructor prior to missing a session if at all possible, and certainly right after if earlier was not possible. The instructor will allow two unexcused absences per semester before having the option to deduct points from the finalgrade (5 points per subsequent unexcused absence). Note that excessive absence may result in being dropped from the lab. It is the student's responsibility to obtain the content covered during missed labs. Participation points also include completing post-labs online quizzes (when requested, if any) that are administered as surveys to monitor students' overall progress and potential struggles.

COVID-19 Accommodations: Students are not permitted on campus when they have a positive COVID-19 test, exposure or symptoms. If you are not permitted on campus, you should contact me as soon as possible so we can arrange necessary and appropriate accommodations. (classes with on-campus meetings) Students who are considered high risk according to CDC guidelines and/or those who live with individuals who are considered high risk may contact Center for Accommodations and Support Services (CASS) to discuss temporary accommodations for on-campus courses and activities.

ONLINE ETIQUETTE As we know, sometimes communication online can be challenging. It's possible to miscommunicate what we mean or to misunderstand what our classmates mean given the lack of body language and immediate feedback. Therefore, please keep these netiquette (network etiquette) guidelines in mind. Failure to observe them may result in disciplinary action.

- Always consider audience. This is a college-level course; therefore, all communication should reflect polite consideration of other's ideas.

- Respect and courtesy must be provided to classmates and to the instructor at all times. No harassment or inappropriate postings will be tolerated.

- When reacting to someone else's message, address the ideas, not the person. Post only what anyone would comfortably state in a face-to-face situation.

- Blackboard is not a public internet venue; all postings to it should be considered private and confidential. Whatever is posted on in these online spaces is intended for classmates and professor only. Please do not copy documents and paste them to a publicly accessible website, blog, or other space.

- Be reminded that some materials are subject to copyright and violations are prosecuted, so be cautious on what you share!

Detailed Learning Outcomes

Level 1: Knowledge and Comprehension. Level 1 outcomes are those in which the student has been exposed to the terms and concepts at a basic level and can supply basic definitions. On successful completion of this course, students will be able to describe, at a high level:

1. The history of computing

2. The relation between computing and society, including social, ethical, and legal issues

3. Computing as a profession, from required knowledge and skills to major career options

4. The relation between computing and society, including main social, ethical, and legal issues

5. Computer representation of simple data types and operations, including operations with binary numbers

6. Differences among programming languages

7. Pseudocode of the use of Multi-D arrays

8. Pseudocode of the use of Linked lists

Level 2: Application and Analysis Level 2 outcomes are those in which the student can apply the material in familiar situations, e.g., can work a problem of familiar structure with minor changes in the details. Upon successful completion of this course, students will be able:

1. To analyze problems and express solution algorithms in pseudocode, including a correct use of:

   (a) Arithmetic and logical expressions

   (b) Simple I/O operations

   (c) User-defined subprograms, including recursive methods

   (d) User-defined types

2. To use testing and debugging strategies, including black-box and white-box testing, test drivers, stubs and test suites, to identify software faults

3. Use teamwork roles and methods in the classroom

Level 3 Outcomes: Synthesis and Evaluation. Level 3 outcomes are those in which the student can apply the material in new situations. This is the highest level of mastery. On successful completion of this course, students will be able to use the syntax and semantics of a higher-level language to express solutions to programming problems, including the pseudocode correct use of:

1. Basic variable types such as integer, real number, character, string, 1-D array

2. Assignment, arithmetic, and logical operations

3. Basic control structures: if-then, for-loop, while-loop

Policies

Academic dishonesty: It is UTEP's policy, and mine, for all suspected cases or acts of alleged scholastic dishonesty to be referred to the Office of Student Conduct and Conflict Resolution for investigation and appropriate disposition. See Section II.1.2.2 of the Handbook of Operating Procedures.

Attendance: I strongly encourage you to attend every class, though there is no particular grade penalty for absences. You are responsible to find out any assignment that must be made up if you are absent. My goal is for class meetings and activities to complement, rather than echo, the textbook, and thus for every class to be worth attending.

Courtesy: We all have to show courtesy to each other, and the class as a whole, during class time. Please arrive to class on time (or let me know when you have to be late, and why); do not engage in side conversations when one person (me, or another student) is talking to the whole class; and do not engage in phone, email, or text conversations during class.

Disabilities: If you have, or suspect you have, a disability and need an accommodation, you should contact the Center for Accommodations and Support Services (CASS) at 747-5148, cass@utep.edu, or Union East room 106. You are responsible for presenting to me any CASS accommodation letters and instructions.

Exceptional circumstances: If you anticipate the possibility of missing large portions of class time, due to exceptional circumstances such as military service and/or training, or childbirth, please let me know as soon as possible.

Concept Map: