

CS 1301 Introduction to Computer Science

Spring 2020 Syllabus

<p>Time:</p> <p style="padding-left: 20px;">Section 001: MW 12:00 pm -1:20 pm</p> <p style="padding-left: 20px;">Section 002: MW 1:30 pm – 2:50 pm</p> <p>Location: CCSB G.0208</p> <p>Textbook: Programming in Java, by Zybooks.</p> <ol style="list-style-type: none"> 1. Sign in or create an account at learn.zybooks.com 2. Enter zyBook code: UTEPCS1301AkbarSpring2020 3. Subscribe <p>A subscription is \$58. Subscriptions will last until Jun 14, 2020.</p>	<p>Instructor: Monika Akbar (makbar@utep.edu)</p> <p>Office: CCSB 3.0422</p> <p>Office Hours: MW 9:00 am – 10:00 am or by appointment</p>
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Section - 001

Role	Name	Email
Teaching Assistant (TA)	Anindita Nath	anath@miners.utep.edu
Instructional Assistant (IA)	Stepahnie Galvan	sgalvan6@miners.utep.edu
Instructional Assistant (IA)	Eduardo Garcia	edgarcia5@miners.utep.edu
Peer Leader (PL)	Diana Licon	dlicon2@miners.utep.edu

Section - 002

Role	Name	Email
Teaching Assistant (TA)	Ivan Gastelum	igastelum@miners.utep.edu
Instructional Assistant (IA)	Grecia Navarrete	gnavarrete4@miners.utep.edu
Instructional Assistant (IA)	Raquel Gonzalez	rbgonzalez3@miners.utep.edu
Peer Leader (PL)	Nadia Atiyeh	natiyeh@miners.utep.edu

NOTE: When emailing the instructor or TA/IA, please use [CS1301] in the subject.

Course Objectives: Students will learn to be active learners, understand the motivations for computing, basic concepts of algorithms, basic computer organization, and impacts of computing. They will develop problem-solving skills, implement solutions to computing problems in a high-level programming language, and build team skills, critical-thinking skills, and professionalism.

Note: You should be enrolled in **one lab section**. **Your lab and class should have the same instructor.** Do not drop in on a lab or lecture section other than yours, without prior approval from your instructor.

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

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 Pre-calculus, including algebraic functions, proofs, and base representations of numbers.

Software: Software used in this course will be available on the Windows computers in the main computer lab and in the two instructional labs on the first floor of the CCSB building. For those who wish to use the course software on your home computer, instructions will be given in the labs and will be available in Blackboard.

Course materials: All the course materials will be available through **Blackboard (Bb)**. Please check Bb regularly to stay updated with the class.

Please talk to the instructor or the TA anytime you have questions, concerns, or want to discuss anything. Reach out as often and as frequently as you need, so that we can help you succeed.

Final Exam

!!!! ~~~ Please note that section 002 will have the exam earlier than section 001 ~~~!!!!

Section 001: Friday, May 15th, 1:00 pm

Section 002: Wednesday, May 13th, 4:00 pm

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 homework assignments, quizzes, class participation, 3 mid-term exams, CS engagement, and a final exam.

The approximate percentages are as follows:

- 15% Homework
- 25% Quizzes
- 50% Exams (3 mid-term exams and 1 final exam)
- 8% Class participation (includes on-time lecture attendance, active participation in class, completion of any quizzes for attendance and survey purposes).
- 2% Student Engagement in Computer Science

The nominal percentage-score-to-letter-grade conversion for CS 1301 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.

EXPECTATIONS

Class Participation: Attendance at and participation in all lecture sessions are **mandatory** and critical factors of your success in this 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 before 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 final grade (5 points per subsequent unexcused absence). It is the student's responsibility to obtain the content covered during missed class(es). Participation points also include completing post-lecture and post-labs online quizzes (when applicable) that are administered as surveys to monitor students' overall progress and potential struggles. Any assignments due on the date of the absence will be considered late if not turned in as specified by the assignment guidelines unless an exception is granted by the instructor. *Points lost due to an unexcused absence may not be made up. Any points lost due to an excused absence will need to be made up by arrangement with the instructor.*

Quizzes: The purpose of each **quiz** is to ensure that you are staying current with the class content weekly reading and to verify that you have acquired the skills developed in class. Quizzes usually will be paper-based, or on-line quizzes on Blackboard or other platform(s) as mentioned in the class. **There will be no make-up on missed quizzes.**

Homework: Reading and homework assignments will be announced in class and/or posted on Blackboard. If you miss a lecture session, it is your responsibility to find out what you missed. You should expect to spend **at least four hours per week outside of lecture on reading and homework.** Most of your homework will be work assigned on your online zybook: completing the assigned activities on time will be crucial to your success in the class (since these activities prepare you for classwork) and to getting a good grade (since late completion will be penalized).

Exams: There will be **3 midterm exams** and **one final exam.** All four exams together will weigh 50% of your overall final grade for CS1301. Because the exams contribute so heavily to your total grade, it is vital that you do well on them. If you have test-taking difficulties in general, or if you have difficulties with our tests in particular, please come let me know as soon as possible and/or request appropriate accommodation from UTEP's Center for Accommodation and Students' Services (CASS, see below).

The purpose of the **midterm exams** is to allow you to demonstrate mastery of course concepts covered thus far during the semester. Mid-term exams will take place during the regular lecture session and are *tentatively* scheduled to be held around week 5, week 10, and week 14. Make-up exams will be given only in extremely unusual circumstances. **If you must miss an exam, please meet with the instructor, BEFORE the exam.**

The **final exam** will be comprehensive. You **must score 65% or better on the final exam** to pass this course. You must take the final exam during the time shown in the schedule for the lecture section that you normally attend. Do not "drop-in" to another section: there will not be a copy of the exam for you. This is University policy. If you have a scheduling conflict (e.g., if you are taking a final at EPCC) or if you are scheduled for three final exams in one day, see your instructor in advance for accommodation.

Student Engagement in Computer Science: During the course of the semester, you must engage as a computer scientist in activities as shown below, in a way that you cumulate at least 2 points (towards your final grade).

Possible activities (along with the number of points each yields) include (but are not limited to – check with Dr. Akbar if you'd like to do something that is not on the list):

- **1 point** for each of the following:
 - Write a summary of a seminar you attended (proof of attendance needs to be provided as well).
 - Attend two review sessions provided by your undergraduate TAs (known as IAs) or peer leaders before exams.
 - Participate in a Department's open house as a volunteer student.
 - Design a video about a specific career in Computer Science.

- **2 points** for each of the following:
 - Be an active participant in Google IgniteCS program (or equivalent);
 - Be an active undergraduate researcher in one of the Computer Science Research labs and present to the class your work.

Note: These points should be acquired **by the end of week 12 (April 10th)** of the semester. No submission will be accepted past this deadline.

TENTATIVE TOPICS COVERED

Following is a list of tentative topics that will be covered in this course (similar to the learning outcomes):

- History of computing
- Introduction to problem solving
- Abstraction
- Algorithm and pseudo-code
- Variables
- Conditionals
- Repetitions
- Array
- Decomposition (Method)
- Testing
- Object
- Linked list

RESOURCES

Special Accommodations: If you have a disability and need classroom accommodations, please contact the Center for Accommodations and Support Services (CASS) at 747-5148 or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass. CASS' staff are the only individuals who can validate and if need be, authorize accommodations for students with disabilities.

Scholastic Dishonesty: Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but not limited to cheating, plagiarism, collusion, submission for credit of any work or materials that are attributable to another person.

Cheating is:

- Copying from the test paper of another student
- Communicating with another student during a test to be taken individually
- Giving or seeking aid from another student during a test to be taken individually
- Possession and/or use of unauthorized materials during tests (i.e. crib notes, class notes, books, etc.)
- Substituting for another person to take a test
- Falsifying research data, reports, academic work offered for credit

Plagiarism is:

- Using someone's work in your assignments without the proper citations
- Submitting the same paper or assignment from a different course, without direct permission of instructors

To avoid plagiarism, see: https://www.utep.edu/student-affairs/osccr/_Files/docs/Avoiding-Plagiarism.pdf

Collusion is: Unauthorized collaboration with another person in preparing academic assignments

NOTE: When in doubt on any of the above, please contact your instructor to check if you are following authorized procedure.

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. Computer representation of simple data types and operations, including operations with binary numbers
5. Differences among programming languages
6. Pseudocode of the use of Multi-D arrays
7. 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 the 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: 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