The University of Texas at El Paso
Department of Computer Science
CS 1301 – Intro to Computer Science
Fall 2021 Syllabus

1. General Information

Instructor:
Daniel Mejia
Email: dmmejia2@utep.edu
Dates: August 23, 2021 – December 10, 2021
Office Hours: MW 3:00 – 4:00pm, or by appointment
Office: CCSB 3.1018

MW 10:30am		
CRN	15571	(CS 1101 – 15589)
Time	MW 10:30-11:50am	CCSB G.0208
TA	Erik Macik	esmacik@miners.utep.edu
IA	TBA	TBA
IA	TBA	TBA
PL	Anna Aguilar	avaguilar2@miners.utep.edu

MW 1:30pm		
CRN	15617	(CS 1101 – 15614)
Time	MW 1:30-2:50pm	CCSB G.0208
TA	Nathan Aun	naaun@miners.utep.edu
IA	Lorelyne Chavez	lchavez22@miners.utep.edu
IA	Efrain Retana	eretana1@miners.utep.edu
PL	Isabella Gaytan	igaytan1@miners.utep.edu

Please communicate with the instructor, TA, or IA anytime you have questions, concerns, or wish to discuss anything. Reach out as often and frequently as necessary so that you may succeed.

NOTE: When emailing the instructor, TA or IA, please use [CS 1301 FA21] in the subject.

You should be enrolled in **one lab section**. **You should be registered for the corresponding lab.** Do not visit a lab or lecture section other than yours, without prior approval from the instructor.

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

Textbook (Required):

1. Access through Blackboard – Zybooks
2. Subscribe
3. Subscription is **$58**. Subscriptions will last until December 25, 2021

2. Objectives & Outcomes

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.

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.

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

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 major advances in the history of computing
2. The relation between computing and society, including social, ethical, and legal issues
3. The importance of computing in a variety of professions: required knowledge and skill sets for major career options
4. Classes of programming languages, including:
    a. Imperative,
    b. Object oriented,
    c. Declarative, and
    d. Functional
5. The purpose of multi-dimensional arrays (dimension 3 and above)
6. The purpose of and relationship between classes and objects
7. The purpose of pre/post conditions, in particular as related to verification
8. Compilation and interpretation

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 to:

1. Analyze problems, design and implement solution algorithms, including correct use of:
    a. User-defined types and their implementation as classes
    b. Basic string manipulation techniques using language functions, including:
        i. Traversing strings,

      ii.   Accessing characters,
     iii.   Comparing strings,
     iv.   Concatenating strings

2. Algorithm-tracing techniques to ensure solution correctness including method calls
3. Use testing and debugging strategies to identify software faults by creating test suites that include:
   a. Black-box test cases
   b. Basic white-box test cases
4. Use general software engineering principles, including abstraction and problem decomposition in problem and solution analysis
5. Use informal pseudocode to describe algorithms
6. Use 2D arrays
7. Apply Binary arithmetic to solve problems. This includes:
   a. Conversion between binary, decimal, and hexadecimal numbers,
   b. Application of arithmetic operations on binary and hexadecimal numbers
8. Use recursion for solving simple problems
9. Use linked lists

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 high-level language to express solutions to programming problems, including the pseudocode correct use of:

1. Basic variable types including Booleans, integers, real numbers, characters, strings
2. 1-D arrays
3. Assignment and arithmetic
4. Logical propositions to define conditional and loop statements
5. For-loops
6. While-loops
7. Methods/functions, parameter passing, return values
8. Algorithmic building blocks including
   a. Min
   b. Max
   c. Average
   d. Summation
   e. Linear search

3. Policies & General Information

Grading:
- Homework – 8%
- Quizzes – 17%
- Exam 1 – 10%
- Exam 2 – 15%
- Exam 3 – 20%
- Final Exam – 25%
- Class Participation/Attendance – 3%

- Student Engagement in CS – 2%

The nominal percentage-score-to-letter-grade conversion 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.

The instructor reserves the right to adjust these criteria downward, (e.g., so that 88% or higher represents an A) based on overall class performance. The criteria will not be adjusted upward, however.

Attendance:
Attendance and participation in all lecture sessions are 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. Attendance may be taken through iClicker, Blackboard, sign-in sheets, or other means. It is required that you attend each session. Failure to attend the class will result in poor performance in the course. Please come prepared for all sessions.

Class Participation:
Students should notify the instructor prior to missing a session if 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 from overall grade 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 will usually be paper-based, or online quizzes on Blackboard, or other platform(s) as mentioned in the class. There will be **no make-up** for 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 Zybooks: 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). Some assignments will be submitted through Blackboard.

Exams:
There will be three (3) midterm exams and one (1) final exam. All four exams together will weigh 70% of your overall final grade for CS 1301. 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, please come let me know as soon as possible and/or request appropriate accommodation from UTEP's Center for Accommodation and Students' Services.

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. You will receive an announcement (i.e., in-class, email, Blackboard, etc.) at least one week prior to an exam. 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.

Exams may make use of test proctoring software such as, Respondus Lockdown Browser and Respondus Monitor inside of Blackboard to promote academic integrity. You are encouraged to learn more about how to use these programs prior to the first exam.

Student Engagement in Computer Science:
During 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 yield) include (but are not limited to – check with Dr. Mejia 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 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
    - Design a video "explaining to a first grader" a topic relating to this course (seek instructor approval for topic)
    - Other CS engagement suggestions will be determined and announced
- **2 points** for each of the following:

- o Be an active participant in a CS student organization / club (provide proof from faculty advisor)
- o Be an active undergraduate researcher in one of the CS Research labs and present to the class your work
- o Other CS engagement suggestions will be determined and announced

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

Technology:

Course content is delivered via the Internet through the Blackboard learning management system (LMS), supplemented by Microsoft Teams. Ensure your UTEP MINERS account is working and that you have access to the Internet. You may use any of the primary Web browsers—Edge, Google Chrome, Firefox, Safari, etc. When having technical difficulties, try switching to another browser.

The use of laptops, cell phones, or tablets of any kind, will be necessary for this course (homework). It may be necessary to have a cell phone with a PDF Scanning App (Adobe Scanner, Notes (iPhone), CamScanner, etc.) to scan homework assignments. You may use a tablet (iPad, Surface Pro, etc.) to handwrite certain homework assignments and submit as PDF documents.

You will need to have access to a computer/laptop, printer, scanner, a webcam, and a microphone. You will need to download or update the following software: Microsoft Office, Adobe, Flash player, Windows Media Player, QuickTime, and Java. Check that your computer hardware and software are up-to-date and able to access all parts of the course. If you encounter technical difficulties of any kind, contact the Help Desk.

Students should not use any electronic devices during the course meetings. This includes, but is not limited to laptops, cell phones, or tablets of any kind. Students who wish to take notes using any electronic means should request permission from the course instructor prior to use.

You are not authorized to use any online services that is not licensed by UTEP, including, but not limited to Discord, Twitch, WhatsApp or GroupMe. You should not use these services for communication, collaboration, or the like in any way with respect to this course. You are only permitted to use Microsoft Teams, Microsoft Office (Licensed through your Miners account), and Blackboard.

Incomplete Policy:

Incomplete grades may be requested only in exceptional circumstances after you have completed at least half of the course requirements. Talk to me immediately if you believe an incomplete is warranted. If granted, we will establish a contract of work to be completed with deadlines.

Drop Policy:

You will not be dropped by the instructor in this course. However, if you feel that you are unable to complete the course successfully, please let me know and then contact the Registrar's Office to initiate the drop process. If you do not, you are at risk of receiving an "F" for the course.

Accommodations Policy:

UTEP is committed to providing reasonable accommodations and auxiliary services to students, staff, faculty, job applicants, applicants for admissions, and other beneficiaries of University programs, services and activities with documented disabilities in order to provide them with equal opportunities to participate in programs, services, and activities in compliance with sections 503 and 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA) of 1990 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. Reasonable accommodations will be made unless it is determined that doing so would cause undue hardship on the University. Students requesting an accommodation based on a disability must register with the UTEP Center for Accommodations and Support Services (CASS); please contact the office at (915) 747-5148, or by email to cass@utep.edu. Students are required to discuss their accommodations with the instructor for a proper plan to be made.

4. Standards of Conduct, Academic Dishonesty, and Other Information

Copyright Statement for Course Materials:
All materials used in this course are protected by copyright law. The course materials are only for the use of students currently enrolled in this course and only for the purpose of this course. They may not be further disseminated or modified in any form.

Class Recordings:
Course lectures may be recorded by the instructor/department. Students are not permitted to record the course (i.e., video, audio, etc.) without expressed permission from the instructor.

The use of recordings will enable you to have access to class lectures, group discussions, and so on in the event you miss a synchronous or in-person class meeting due to illness or other extenuating circumstance. Our use of such technology is governed by the Federal Educational Rights and Privacy Act (FERPA) and UTEP's acceptable-use policy. A recording of class sessions will be kept and stored by UTEP, in accordance with FERPA and UTEP policies. Your instructor will not share the recordings of your class activities outside of course participants, which include your fellow students, teaching assistants, or graduate assistants, and any guest faculty or community-based learning partners with whom we may engage during a class session. **You may not share recordings outside of this course.** Doing so may result in disciplinary action.

COVID-19 Precautions:
Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell, please let the instructor know as soon as possible, so that appropriate accommodations can be made. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID 19 testing.

The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of

people. The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on campus during the first week of classes. For more information about the current rates, testing, and vaccinations, please visit epstrong.org.

Netiquette:
Always consider audience. Remember that members of the class and the instructor will be reading any postings. Respect and courtesy must be always provided to classmates and to instructor. 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 F2F 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. If students wish to do so, they have the ethical obligation to first request the permission of the writer(s).

Plagiarism Detection:
All coursework and assignments are subject to be submitted to plagiarism detection software including, but not limited to SafeAssign.

Support Services:
Technology Resources
- Help Desk: Students experiencing technological challenges (email, Blackboard, software, etc.) can submit a ticket to the UTEP Helpdesk for assistance. Contact the Helpdesk via phone, email, chat, website, or in person if on campus.

Academic Resources
- UTEP Library: Access a wide range of resources including online full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.
- University Writing Center (UWC): Submit papers here for assistance with writing style and formatting, ask a tutor for help and explore other writing resources.
- Math Tutoring Center (MaRCS): Ask a tutor for help and explore other available math resources.
- History Tutoring Center (HTC): Receive assistance with writing history papers, get help from a tutor and explore other history resources.
- RefWorks: A bibliographic citation tool; check out the RefWorks tutorial and Fact Sheet and Quick-Start Guide.

Individual Resources
- Military Student Success Center: Assists personnel in any branch of service to reach their educational goals.
- Center for Accommodations and Support Services: Assists students with ADA-related accommodations for coursework, housing, and internships.

- Counseling and Psychological Services: Provides a variety of counseling services including individual, couples, and group sessions as well as career and disability assessments.

Standards of Conduct:
You are expected to conduct yourself in a professional and courteous manner, as prescribed by the UTEP Standards of Conduct.

A fundamental principle for any educational institution, academic integrity is highly valued and seriously regarded at The University of Texas at El Paso. More specifically, students are expected to maintain absolute integrity and a high standard of individual honor in scholastic work undertaken at the University. At a minimum, you should complete any assignments, exams, and other scholastic endeavors with the utmost honesty, which requires you to:
- Acknowledge the contributions of other sources to your scholastic efforts.
- Complete your assignments independently unless expressly authorized to seek or obtain assistance in preparing them.
- Follow instructions for assignments and exams, and observe the standards of your academic discipline; and
- Avoid engaging in any form of academic dishonesty on behalf of yourself or another student.

Graded work, e.g., homework and tests, is to be completed independently and should be unmistakably your own work (or, in the case of group work, your team's work), although you may discuss your project with other students in a general way. You may not represent as your own work material that is transcribed or copied from another person, book, or any other source, e.g., a web page.

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

- **Cheating**
  - Copying from the test paper of another student
  - Communicating with another student during a test
  - Giving or seeking aid from another student during a test
  - 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**
  - 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
- **Collusion**
  - Unauthorized collaboration with another person in preparing academic assignments

Collaboration:

Collaboration among students is strongly encouraged.

It is acceptable to:

- Talk with other students about approaches and ideas.
- Get ideas and extra information from the internet, books, etc.

However, it is not acceptable to:

- Share code with another student (if a piece of code is submitted by two or more students, both students are guilty of cheating, regardless of who wrote the original code).
- Use code acquired from an outside source (the internet, a friend, etc.)
- Look at another student's code
- Debug another student's code

Software to detect plagiarized programs are used; appropriate disciplinary actions will be taken as necessary.

A full description of the University Standards of Conduct and Academic Dishonesty can be found in the Handbook of Operating Procedures.

Professors are required to -- and will -- report academic dishonesty and any other violation of the Standards of Conduct to the Dean of Students and OSCCR.