

# The University of Texas at El Paso

## Department of Computer Science

### CS 1101 – Intro to Computer Science Lab

### Spring 2022 Syllabus

## 1. General Information

### Instructor:

Daniel Mejia, Ph.D.

Email: [dmmejia2@utep.edu](mailto:dmmejia2@utep.edu)

Dates: August 22 – December 9, 2022

Office Hours: TR 1:30 – 2:30pm, or by appointment

Office: CCSB 3.1018

MW 9:00am		
CRN	15637	(CS 1301 – 15619)
Time	MW 9:00am-10:20am	CCSB G.0208
TA	Ruth Trejo	<a href="mailto:rtrejo9@miners.utep.edu">rtrejo9@miners.utep.edu</a>
IA	Clarissa Dominguez	<a href="mailto:cdominguez30@miners.utep.edu">cdominguez30@miners.utep.edu</a>
IA	Gabriel Terrazas	<a href="mailto:gaterrazas2@miners.utep.edu">gaterrazas2@miners.utep.edu</a>

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 succeed.

**NOTE: When emailing the instructor, TA or IA, please use [CS 1101 FA22] in the subject.**

You should be enrolled in **one lab section**. Your lab and lecture should have the associated **CRN**. 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

## 2. Objectives & Outcomes

**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 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.

## Learning Outcomes

**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. Simple I/O operations (reading from and printing to the terminal)
  - b. User-defined types and their implementation as classes
  - c. 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
10. Instead of IDEs, use a command line interface (terminal) to compile and execute programs.
11. Use teamwork roles and strategies 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 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
9. Coding and documentation standards

### 3. Policies & Other Information

#### Grading:

- Comprehensive Lab 1 – 20%
- Comprehensive Lab 2 – 20%
- Comprehensive Lab 3 – 20%
- Quizzes – 7%
- Homework/Assignments – 30%
- Lab Participation/Attendance – 3%

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 within the first 5 minutes of class – students who arrive after this time will be counted absent. 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, rollcall, visual attendance by instructional team, 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. Please inform the TA/IA and instructor if you will be late or absent to class.

#### Lab Assignments:

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

- Problems to be solved without computers to practice problem solving and algorithm design.
- Programming assignments.

**Deadlines for lab assignments will be clearly specified in the description of each assignment. Assignments will be accepted up to three days late (72 hours) will have scores reduced by 10% for each day (24 hours) of tardiness.**

When assessing labs, TAs will spend 5 to 10 minutes with each student 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.

### **Comprehensive Labs:**

Typically, there are 3 comprehensive labs. These labs require more time to complete. The deadline for comprehensive lab is usually longer than the daily homework labs.

### **Lab Participation:**

Attendance at and participation in all lab sessions are mandatory and 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. Programming activities assigned by the TA will count towards homework grade.

Students should **notify the TA prior to missing a session** if possible, and certainly right after if earlier was not possible. The TA 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 labs. Participation points may also include completing post-labs online quizzes (when applicable) that are administered as surveys to monitor students' overall progress and potential struggles.

### **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.

### **Student Engagement in Computer Science (Extra Credit):**

During the semester, you may 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:
  - Be an active participant in a CS student organization / club (provide proof from faculty advisor)
  - Be an active undergraduate researcher in one of the CS Research labs and present to the class your work
  - 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 and GitHub Classroom. 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. Additionally, you may be required to submit video recordings during the semester – this can be done using a phone camera, webcam, and/or video camera. 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](#).

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.

Students are permitted to use iPad/Tablets to handwrite notes. Students are not permitted to use their iPad/Tablet to browse the internet or use any other applications that are not related to the course. Students who use unauthorized applications during class time will be no longer be permitted to use the iPad/Tablet for note taking. Students should take notes by hand and not by

typing. Students should avoid the use of cell phones during class unless indicated by the instructor.

**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](mailto: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. It is not permitted to share, reproduce, or alter any assignment for any purpose. Students are not permitted from sharing code, uploading assignments online in any form, or viewing/receiving/modifying code written from anyone else. Assignments are part of an academic course at The University of Texas at El Paso and a grade will be assigned for the work produced individually by the student.

**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](mailto: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. For more information about the current rates, testing, and vaccinations, please visit [epstrong.org](http://epstrong.org).

### **Etiquette:**

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 without authorization (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.