SYLLABUS

CS2401: Elementary Data Structures Fall 2021
CRN: 21538 (Lecture) CRN 22891 (Lab)
Lectures: TR 9 to 10:20AM
Labs: MW 9 to 10:20AM

INSTRUCTIONAL TEAM

Instructor:
• Dr. Martine Ceberio: mceberio@utep.edu
  Office hours: TR 11AM to noon
  Where: in my office CCSB 3.0406
  How to contact me? Please use the chat of MS Teams only.

Teaching Assistant:
• Nathan Aun: naaun@miners.utep.edu
  Office hours: MW 10:30AM to 12:30PM

Instructional Assistants:
• Bradley Beltran: bibeltran@miners.utep.edu
  Office hours: TR 1PM to 3PM
• David Dominguez Garcia: dedominguez2@miners.utep.edu
  Office hours: MW 1PM to 3PM

COURSE DESCRIPTION:
This is the second course for students majoring in Computer Science. Students will learn about fundamental computing algorithms including searching and sorting; recursion; elementary abstract data types including linked lists, stacks, queues and trees; and elementary algorithm analysis.

Prerequisite: CS 1301 and CS 1101 with a grade of C or better in both.

Knowledge and Abilities Required Before Entering the Course:
Students are assumed to be comfortable programming in Java. Students should be able to code basic arithmetic expressions, define simple classes, use strings, code loops and conditional statements, write methods, create objects from classes, invoke methods on an object, perform basic text file input and output, and use arrays.
COVID-19 PRECAUTION STATEMENT
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.

Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms.

- 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.
- If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations.

Accommodations are as follow: You can stay at home exceptionally if feeling unwell (it cannot be more than 2 sessions in a row unless documented by a doctor -- otherwise, student will be dropped). If you tested positive, inform UTEP through covidaction@utep.edu and UTEP will inform me: at this point, you will be excused and not dropped.

However, it is really important that you keep up with the material covered, the activities conducted, and the work assigned in class and lab.

So if you have to stay home, here is what you can and are expected do. You will follow along what we do in class by doing the following:

- By checking the lecture notes on MS Teams as well as on OneNote. As you do this, please make sure that you are up to date with the topics covered, the homework, and work done in class.
- By logging in to the live stream for our class: although this is not a perfect way to attend class, it is a way for you to somehow follow. The class is not meant to be hybrid but we understand that situations like yours will happen and we give access to the live stream but without the technology that would make it good.
- By checking with your buddy group for any questions you may have or to get more class notes: on teams, you will see that you were added to a private group of 5 to 6 students. This is your buddy group, the group of students you are to reach out to if you are absent and need to make sure you are up to speed.

REQUIRED TEXTBOOK:
COURSE ASSIGNMENTS AND GRADING:

There will be 5 types of assignments / assessments this semester:

1. Homework assignments
2. Quizzes
3. Lab assignments
4. Examinations
5. Active participation in class / lab

All assignments described in this section are mandatory assignments and will count towards your course grade.

1. Homework assignments

Most of your homework will be work assigned on your online zybook (see above for textbook details and online registration). Reading and homework assignments are already posted and available:

- Directly inside your zybook (for the zybook homework),
- In your class OneNote notebook (under Schedule and Deadlines), and
- At the end of this syllabus as well,

so that you can organize your time throughout the semester. Please note down all deadlines and plan your work accordingly. As an FYI, HW with more points are longer assignments. Knowing this will help you plan for enough time to complete them and start early enough.

Completing the assigned activities on time will be crucial to your success in the class (since these activities prepare you for classwork, labs, and exams). Reading and homework assignments to be completed on your online textbook are usually meant to familiarize you with concepts that will be covered in depth in class. If you struggle in any way while working on these, it is crucial that you seek help as soon as possible with your instructional team.

Online homework grade: at each deadline, your instructor will collect your progress towards the due assignment. The % of completion you have achieved will be used to compute your grade on this particular homework.

There will be no late homework on zybook. If you miss a deadline but still complete your work, you will get your point at the time of the catch-up deadline, so no need to ask for an extension.

Late work and semester struggles: is not encouraged. As you can see in the list of deadlines, failing to meet deadlines can easily snowball and cause you to fail this course. However, we know things happen, so if you are starting to fall behind, you are expected to immediately contact the instructional team so we can help you make a plan to come back on track as soon as possible.

2. Quizzes

The purpose of each quiz is to ensure that students are staying current with the weekly reading assignments and the homework and class activities, and to verify that they have acquired the skills presented and practiced in class/lab. Quizzes are unannounced. All quizzes are in-person quizzes. There will be no make-up on missed quizzes, but quizzes will be available for students to practice even if they missed them.
Important note: In addition to the above scheduled exams, the instructor reserves the right to assign additional unannounced in-class assignments, to be turned in either by the end of the class or within a short period of time after the class (instructions and submission details will be provided for each assignment). There will be no make-up for missed in-class assignments but assignments will be available for students to practice even if they missed them. Grades of such assignments will weigh equally with grades from quizzes and homework assignments.

Note: If you miss a lecture session, it is your responsibility to find out what you missed, including assignments that might have been given in class.

3. Lab assignments

Lab assignments are designed for you to further your practice of the concepts presented in class and to demonstrate your level of mastery on these. In lab, you will typically work on either small lab activities related to currently covered concepts or concepts in which your instructional team thinks you should acquire more fluency (we call these minilabs), or more substantial (more comprehensive) lab assignments (longer comprehensive labs). Tentatively (see schedule and deadlines), we are planning 7 mini labs and 2 longer labs during this semester.

Attendance and active participation: You are expected to attend and actively participate in labs and to submit your work on time. Attendance will be taken and will count towards your overall standing in the class.

Important Reminder: You need to score 70% or higher in the labs portion of the course grade to pass CS2401, regardless of your course average otherwise.

4. Examinations

There will be 3 midterm exams (1 hour and 20 minutes each in class, see schedule below), and one final exam (see schedule below for exact exam date and time). Because the exams heavily contribute to your semester grade, it is vital that you put your best effort on each of them.

If you have test-taking difficulties in general, or if you have difficulties with our tests in particular, please request appropriate accommodation from UTEP’s Center for Accommodation and Students’ Services (see below for more details).

The purpose of the midterm exams is to allow you to demonstrate mastery of course concepts covered thus far during the semester (hence each exam is comprehensive). Mid-term exams will be given in person during class time. Their tentative schedule is available below.

Make-up exams will be given only as a result of extremely unusual circumstances. If you must miss an exam, please meet with an instructor BEFORE the exam. One make-up exam time will be scheduled per midterm examination. There will not be any other make-up options.

The final exam will be comprehensive. You must score 70% or better on the final exam to pass this course.

5. Active participation and Professionalism

Class and Lab Participation: Attendance and participation in all lecture and lab 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 the beginning of every session and, along with evidence of your active participation, will count towards your class participation grade.
During lectures and labs, students should be on task. When in lecture or lab session, students are expected to direct their attention to the task/activity as directed by the lecture/lab instructor. For instance, lecture and lab sessions are certainly not places for social-networking, working on homework, checking other courses/goldmine/etc.

**What happens if I am late to class?**

If it is a pattern, we will count your absent for the sessions in which you are late. These absences will count towards the maximum of 6 absences after which we will drop you.

Although leaving early is absolutely forbidden (unless authorized by the instructor), if you leave early without authorization, you will be counted absent for the whole session and the absence will count towards your maximum 6 absences.

**What happens if I miss class?**

If you cannot attend a lecture/lab, you have to inform your instructor. If it is a medical absence, you are expected to inform your instructor as soon as practical (if your absence is COVID related, please see the precaution statement above in this syllabus). Documented absences (doctor's notes, court documents, etc.) will be excused and will not count towards the maximum 6 absences.

When you miss class, if we do not hear from you, we will contact you. It is essential that you consult your MS Teams messages on a daily basis. If you are absent more than 6 times (lectures and labs combined) and do not communicate with us promptly and/or do not reply to our emails/messages as we are trying to touch base with you, you will be dropped from the class within a week. In any case, points from attendance will be taken off for each absence (5 points per unexcused absence, with up to 3 excused absences allowed per lecture/lab).

**Late submission of work:** Students should submit their work on time and meet all deadlines. Failing to do so will affect the participation grade. Additionally

**Communication:** Students are expected to consult their MS Teams messages and emails every business day, ideally twice on these days at least, and to promptly answer these.

**Due Date of Assignments**

Deadlines this semester will consistently be on Thursdays and Sundays, as follows:

- Lab assignments will be due either on Thursdays or Sundays at 11:59PM
- Zybook homework assignments will be due on Thursdays at 9AM and Sundays at 11:59PM

**Plan ahead:** If you foresee that any of these deadlines will be an issue, you are already given most of the deadlines for the semester and therefore can arrange to work ahead of time to still meet the required deadline.

**GRADES:**

Grades will be available to students in a timely manner. Students can easily keep track of their grades using our frequent communication. In case of any doubt, students are encouraged and welcome to contact the instructor. Your semester grade will be based on a combination of the performance you demonstrated on each of the above types of assignments, as shown below:
The approximate percentages are as follows:

<table>
<thead>
<tr>
<th></th>
<th>CS2401</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class participation</td>
<td>3%</td>
</tr>
<tr>
<td>Homework / In-class assignments average grade</td>
<td>8%</td>
</tr>
<tr>
<td>Lab average grade</td>
<td>42%</td>
</tr>
<tr>
<td>Quizzes and Midterm exams average grade</td>
<td>15%</td>
</tr>
<tr>
<td>Final exam grade</td>
<td>32%</td>
</tr>
</tbody>
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The nominal percentage-score-to-letter-grade conversion for CS 2401 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

**Important Note:** Regardless of your standing in the class at that time, in order to pass the course, you need to earn

- a C or better at the final exam as well as
- a C or better as your average grade on the lab assignments.

**EXPECTATIONS**
You should expect to spend at least four hours per week outside of lecture on reading and homework. You should plan to devote four extra hours on your lab assignments outside of lab sessions.

**COMMUNICATION**
Communication with all members of the instructional team (instruction / TA / IAs) is expected to be as follows:

**How to reach us? How will we reach out to you?** All communication is to take place within the private messages of MS Teams. Emails may not be answered.

**Communication style** Although we will be using the MS Teams messages to communicate, communication is expected to be professional. You are expected to use proper greetings (certainly not "hey", "hello?", etc.).

**Communication speed** Our plan (and we expect, yours too) is to reply messages within 2 business days. This means that you are expected to check your messages at least every other day. If for any reason, we fail (or you do) to reply your message within this time, kindly try again and simply assume that we must have received many messages and may not have seen yours. We will do the same for you. Of course, we do not expect such situations to repeat themselves; that is, we do not expect to miss your messages more than one time; and we will expect the same from you.
ATTENDANCE POLICY:
This course is scheduled in person. If you must attend remotely, please consult your instructor to know how to access the lectures / labs. Please check the COVID-19 Precaution Statement for more information.

LATE WORK POLICY:
Late work will be penalized by 10 points each day up to 3 days. After that, the work will be graded 0.

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:
Every semester, some students drop courses. We, instructors, completely understand and respect that. We only hereby ask students to inform us, ideally before, but in the worst-case right after, of their intention to drop the course. This is really important for us as it possibly informs us of ways in which to better serve our students.

Spring Semester Drop/Withdrawal Deadline: April 1st.

To drop this course, please contact your academic advisor and then the Registrar’s Office to initiate the drop process. If you do not, you are at risk of receiving an “F” for the course.

CLASS RECORDINGS
When relevant, we will record our sessions and will enable you to have access to class lectures recordings in the event you miss an in-person meeting due to illness or other extenuating circumstance. Recordings will be available on the relevant channels of our MS Team (lecture in the General channel, Labs in the Labs channel, workshops in the Workshop channel, etc.).

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. More information about student privacy can be found here:


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**ACCOMMODATION POLICY:**
The University 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. 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 INTEGRITY:**
Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Scholastic dishonesty includes, but not limited to cheating, plagiarism, collusion, and submission for credit of any work or materials that are attributable to another person.

**Cheating** may involve: 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 this [website about avoiding plagiarism](#).

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

**Important!** When in doubt on any of the above, please contact your instructor to check if you are following authorized procedure. Also, please check the UTEP's Handbook of Operating Procedures at: [hoop.utep.edu](http://hoop.utep.edu).

Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. Any student who commits an act of scholastic dishonesty is subject to discipline. All suspected violations of academic integrity at The University of Texas at El Paso will be reported to the Office of Student Conduct and Conflict Resolution (OSCCR) for possible disciplinary action. To learn more [HOOP: Student Conduct and Discipline](#).

**STUDENT RESOURCES:**
UTEP provides a variety of student services and support:

- **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.
- **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 (915-747-4357), email (helpdesk@utep.edu), chat, or website.
- **University Writing Center (UWC):** Submit papers to UWC 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.
- **Military Student Success Center (MSSC):** UTEP welcomes military-affiliated students to its degree programs. The Military Student Success Center and its dedicated staff (many of whom are veterans and students themselves) are there to help personnel in any branch of service to reach their educational goals.
- **RefWorks:** A bibliographic citation tool; check out the RefWorks tutorial and Fact Sheet and Quick-Start Guide.

More complete and updated information can be accessed at this address.
COURSE OUTCOMES:

**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:

1. Design and implement solutions to computational problems using the following data structures:
   a. multi-dimensional arrays;
   b. lists implemented as arrays or linked lists;
   c. stacks;
   d. queues;
   e. binary trees and binary search trees.

**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. Describe, implement, and use the following concepts:
   a. classes, subclasses, and inheritance
   b. encapsulation and information hiding
2. Describe, implement, and use the following algorithms:
   a. sequential and binary search
   b. quadratic and O(n log n) sorting
   c. string manipulation and parsing
3. Describe and trace computer representation and memory allocation of:
   a. integers, real numbers, arrays and objects
b. methods, including recursive methods and the use of activation records

4. Use basic notions of algorithm complexity:
   a. use Big-O notation to express the best-, average- and worst-case behaviors of an algorithm
   b. determine the best, average and worst-case behaviors of a simple algorithm

5. Use recursion and iteration as problem solving techniques

**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:

1. Explain the concept of polymorphism

**NETIQUETTE:**
As part of our interactions (outside the classroom) will be online, please read UTEP’s rules for online courses. They are available for you to read below. Here is also a link where you can access the core rules of netiquette.
NETIQUETTE GUIDE FOR ONLINE COURSES

It is important to recognize that the online classroom is in fact a classroom, and certain behaviors are expected when you communicate with both your peers and your instructors. These guidelines for online behavior and interaction are known as netiquette.

SECURITY
Remember that your password is the only thing protecting you from pranks or more serious harm.
- Don’t share your password with anyone
- Change your password if you think someone else might know it
- Always logout when you are finished using the system

GENERAL GUIDELINES
When communicating online, you should always:
- Treat instructor with respect, even in email or in any other online communication
- Always use your professors’ proper title: Dr. or Prof., or if you in doubt use Mr. or Ms.
- Unless specifically invited, don’t refer to them by first name.
- Use clear and concise language
- Remember that all college level communication should have correct spelling and grammar
- Avoid slang terms such as “wassup?” and texting abbreviations such as “u” instead of “you”
- Use standard fonts such as Times New Roman and use a size 12 or 14 pt. font
- Avoid using the caps lock feature AS IT CAN BE INTERPRETED AS YELLING
- Limit and possibly avoid the use of emoticons like :) or 😛
- Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or offensive
- Be careful with personal information (both yours and other’s)
- Do not send confidential patient information via e-mail

EMAIL NETIQUETTE
When you send an email to your instructor, teaching assistant, or classmates, you should:
- Use a descriptive subject line
- Be brief
- Avoid attachments unless you are sure your recipients can open them
- Avoid HTML in favor of plain text
- Sign your message with your name and return e-mail address
- Think before you send the e-mail to more than one person. Does everyone really need to see your message?
- Be sure you REALLY want everyone to receive your response when you click, “reply all”
- Be sure that the message author intended for the information to be passed along before you click the “forward” button

MESSAGE BOARD NETIQUETTE AND GUIDELINES
When posting on the Discussion Board in your online class, you should:
- Make posts that are on topic and within the scope of the course material
- Take your posts seriously and review and edit your posts before sending
- Be as brief as possible while still making a thorough comment
- Always give proper credit when referencing or quoting another source
- Be sure to read all messages in a thread before replying
- Don’t repeat someone else’s post without adding something of your own to it
- Avoid short, generic replies such as, “I agree.” You should include why you agree or add to the previous point
- Always be respectful of others’ opinions even when they differ from your own
- When you disagree with someone, you should express your differing opinion in a respectful, non-critical way
- Do not make personal or insulting remarks
- Be open-minded