**CSE1325 Discrete Structures**

**Summer 2018 Syllabus**

Instructor: Dr. J. Carter M. Tiernan **620 NH** x2-1295

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Course assignments, this syllabus, schedule, and other material : **elearn.uta.edu** (Blackboard)

Class: CSE1325 - 002 Class meeting time and location: TR 3:30 – 5:20pm, WH 308 (WH = Woolf Hall)

Office hours (in 620 Nedderman Hall): **Mon, Tues/Thurs 1:30pm - 3:00pm and other times available by appointment**

**Course Objective:**

Introduces students to a variety of mathematical and logical formalisms that are the basis for many aspects of computer science. The course will have a variety of topics for students to explore and master. These concepts provide the theoretical underpinnings of the study of computer science as a scientific discipline.

**Catalog Description:**

Propositional and predicate logic, mathematical proof techniques, sets, combinatorics, functions and relations, graphs, and graph algorithms.

Student Learning Outcomes:

• Understand selected fundamental formal theoretics and discrete mathematical concepts employed in problem abstraction and representation needed in the study of modern computer science, computer engineering and software engineering.

• Achieve familiarity and ease in working with mathematical notation and concepts.

• Be able to understand and employ proof techniques, including domain-specific, mathematical induction and proof by contradiction, and be able to decide what the appropriate technique in a given situation is

Prerequisites: CSE 1310 with a C or better, MATH 1426 with a C or better, ENGR 1250 with a C or better (or concurrently), MATH 2425 with a C or better (or concurrently)

Textbook: Judith L. Gersting. Mathematical Structures for Computer Science. W.H. Freeman and Company, New York, NY, 7 th edition, 2014. You can use the e-book version or the hard-copy version. Note that if you choose to use an earlier edition, it’s your responsibility to identify any differences in the editions.

**Schedule:** See Dr. Tiernan's Summer 2018 class website and Blackboard for the semester schedule of class topics and the exam dates for the class. Note that this class will have assignments due during Final Review Week prior to Final Exam Week. The Final Exam Schedule for this class is listed on the UTA website. You must take this exam at this time except in cases of emergency. Travel schedules will not be accommodated.

The class syllabus, schedule, and other information will be available on my website and/or on Blackboard as it is developed. YOU are responsible for checking the website regularly for information such as due date changes and assignments.

**Attendance:** At The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator in student success. Each faculty member is free to develop his or her own methods of evaluating students’ academic performance, which includes establishing course-specific policies on attendance.

*As the instructor of this section, I will take attendance for the first few days of the class only. Attendance does not factor in to the grading. However, students are expected to attend class, pop quizzes may be given during the class, and graded in-class activities will occur. Pop quizzes and in-class activities will not be announced and cannot be made up.*

While UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients “begin attendance in a course.” UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement online via Blackboard. This date is reported to the Department of Education for federal financial aid recipients.

**Grading for CSE 1325:**

1. The class will have exams, quizzes, and homework assignments.
2. Exams are graded out of 100 points each. CSE 1325 will have midterm exam and a final exam. The final exam will be given during the University scheduled final exam time for the class.
3. Quizzes are graded out of 10 points. Quizzes are given in class and are not announced in advance. Quizzes cannot be made up but discuss with instructor if you miss a quiz due to a significant issue.
4. In-class activities are graded out of 10 points. These activities will be assigned during the class and will typically be group activities. In-class activities cannot be made up.
5. Homework assignments may be problem sets or lab (coding) assignments. HW assignments will be graded out of 100 points each. HW assignments must be individual work only and must be submitted by the due date. Late assignments will not be accepted without significant reason and at the discretion of the instructor. [If you are unable to turn in your HW on time, you may request an extension by sending an e-mail to Dr Tiernan within 24 hours of the deadline for the HW. The e-mail must explain WHY you are not able to submit on time. If Dr. T grants an extension, she will reply to your message with the late penalties and new deadlines.]
6. The final numeric grade will then be converted to a semester letter grade as shown below.

**Midterm exam 35%**

**Final exam 35%**

**Quizzes and in-class assignments 10%**

**Homework assignments 25%**

In class pop quizzes up to 3% added to the semester exam grade

*Extra Credit Service Learning up to 3% added to the semester lab grade {OPTIONAL - see below}*

Final course grades determined by:

90 – 100pts A

80 – 89pts B

70 – 79 pts C { CSE 1325 must be passed with a C or better to progress to the next class }

60 – 69 pts D

0 – 59 pts F

The instructor may apply a more lenient letter grade scale based on degree of difficulty of the class.

Make up exams must be arranged in advance and will be scheduled at the discretion of the instructor. See UTA Final Exam Schedule for exact date and time of Final Exam.

**CHEATING on exams, PLAGIARISM, or COLLUSION will not be tolerated.**

**Ethics and Academic Integrity:**

A Statement of Ethics will be provided for you to read, sign, return, and follow. Violators of the ethics code will be reported to the Office of Student Conduct and penalties will be levied as described in the Statement of Ethics.

**Exams:**

Material covered on the exams will be based on the assigned chapters and class lectures. All exams are mandatory. There are no general make-up exams after the scheduled times. If a student notifies the instructor IN ADVANCE, then an early make-up exam MAY be arranged at the discretion of the instructor. In the event of an emergency, contact the instructor as soon as possible. The instructor's decision is final. All exams may be kept by the instructor.

**Problem set homework assignments:**

Problem sets will be assigned. Students are expected to work the problems individually and submit only their own work. Students may discuss approaches to the problems but must work their own problems. Students may work together on sample problems and problems from the textbook for practice. Problem set HWs will be submitted through Blackboard.

**Lab homework assignments:**

All lab assignments are individual effort only.

Lab assignments will be submitted through Blackboard for this class.

Every lab assignment has a given due date. No late labs will be accepted. (Five minutes late is still late.) Lab assignments will be posted on Blackboard.

Lab assignments must be individual effort. The Statement of Ethics you will must submit details the definitions of collusion, plagiarism, and academic dishonesty as related to lab assignments in CSE.

The required lab assignments may be written in any language but both code and output must be submitted as part of the HW assignment.

HW Lab Grading:

Each lab will be graded on a number of factors. **You will receive partial credit for a working stubbed program. It is your responsibility to completely test your lab assignment PRIOR to submission.**

Programs that do not compile successfully (without compiler warnings or errors) will receive **zero (0) credit**.

Programs that do not execute successfully (without inappropriate termination) will receive **zero (0) credit**.

Labs that implement some, but not all, of the requirements must compile and run successfully without errors or warnings to receive partial credit. Examples of errors are

Compilation errors - these occur when the program is being compiled and prevent creation of an executable file.

Compilation warnings - these occur when the program is being compiled, are printed to the screen but still allow the creation of an executable file.

Execution errors - these occur once the program has started running and cause the program to terminate in any way other than that defined by the programmer.

Additional procedural information on lab assignments may be handed out or made available on the website as required.

**Quizzes:**

Pop quizzes will be given in class and based on the assigned chapters and class lectures. Quizzes are not announced. No make-up quizzes will be given.

Grading issues:

Requests for re-evaluation of assignments are limited to seven (7) calendar days after the assignment (exam, quiz, etc.) is returned. Every assignment submitted for regrading must be given to the grader of that assignment in its entirety and will be completely regraded. Papers will not be re-evaluated in the classroom or lab.

Applications for forgiving (or excluding or replacing) the grade in a course are available online from the Registrar's office (Office of Records) and must be turned in to the Registrar before the last drop day of the semester in which the course is being retaken.

Semester grades will be available via the UTA website, after the Registrar has completed processing the semester grades.

Service Learning Extra Credit:

This class will offer the opportunity for you to earn up to 3% extra credit for the semester grade by performing some service to the CSE department, the UT Arlington College of Engineering, the University, or the community. The service must be completed and documentation turned in by the Friday BEFORE Dead Week. The service learning credit structure is as follows:

- 4 or more hours of service to the CSE dept. or the College of Engineering, documented by a faculty or staff member, is worth 3%; 8 hours of service to the University, documented by a faculty or staff member is worth 3%; 16 hours of service to the community documented by a staffer of the community organization is worth 3%.

- 2 to 4 hours of service to the CSE dept. or the College of Engineering OR 4 or more hours of service to the University, documented by a faculty or staff member, is worth 2%;

- 2 to 4 hours of service to the University, documented by a faculty or staff member OR 4 or more hours of service to the community documented by a staffer of the community organization is worth 1%.

CSE dept. service includes volunteering at approved events, joining ACM, GDC, or AAAI and assisting with their events, or other CSE service approved in advance by Dr. T. Approved events include the Engineering Saturday (Sept., Nov. and Apr.), FIRST Tech Challenge mentoring or events (Sep.-Mar.), and FIRST Lego League (Sep. -Nov.),. This is not a complete list but it gives some examples.

College of Engineering service includes volunteering at the Engineering Welcome Bash, joining ESC and assisting with ESC events such as Engineers Week, or other College of Engineering service approved in advance by Dr. T.

University service includes activity with UTA Volunteers, FLOC, or the BIG EVENT, or other UTA service approved in advance by Dr. T.

"Community" service includes volunteering at public schools, parks, animal shelters, and homeless shelters.

 Other venues for service (within UTA or within the community) must be approved in advance by Dr. T prior to your service.

Expectations for Out-of-Class Study:

Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional 12 hours per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, etc.

**Miscellaneous:**

The class syllabus, schedule, and other information will be available on my website and/or on Blackboard as it is developed. YOU are responsible for checking the website regularly for information such as due date changes and assignments.

If you require accommodation based on disability, I would like to meet with you in the privacy of my office during the first week of the semester to ensure that you are appropriately accommodated.

If you are considering dropping this class please come discuss your performance in the class with Dr. Tiernan so that you can make the best choice.

Students who are members of the Honors College may wish to take this course for Honors credit. If you wish to do so, please provide me with an Honors Credit Contract (downloaded from http://honors.uta.edu/documents/credit.pdf). You and I will together determine an appropriate supplemental assignment to justify the awarding of Honors credit. If you are not in the Honors College and would like to learn more about the benefits of membership, visit the website at http://honors.uta.edu/, where you will find an application form for electronic submission.

*\*\*\*How to be successful in Dr. T's class:\*\*\**

For lecture material - Read the textbook in advance. Come to class with material already a little bit familiar then hear it in class again

For lab assignments - START EARLY! Read and follow ALL the instructions. Don't pick and choose which ones you pay attention to. Use a highlighter to go over the assignment the first time and a pen or pencil to go through it a second time.

Design your lab first, then build it piece by piece. Make each piece work and TEST it before you do more. Save a version of the tested partial program then make a copy and continue working on the copy. This means you always have a working version that you could turn in. Test your program by trying out all the possible things that can be wrong and make sure that your program keeps running. If Dr. T says the program does not have to handle a particular problem then you can ignore that one.

***\*\*\*How to get help: \*\*\****

This course offers assistance through weekly office hours for the course instructor and the TA. USE THEM. Go talk to the TA as soon as you can just so you can meet them. Once you meet them, it is easier to ask them for help. Go talk to Dr. T in her office as soon as you can. Same reason.

***\*\*\*Suggestions for success\*\****

Find or create a study group for this class (and all classes). Your study group can help you discuss ideas for writing labs, it can help when you are unclear on topics from class, they can help your debug your code while you are writing, they can be your testers before you turn in your code and you can do that for all your group members. This is one of the BEST ways to be successful in this or any class.

**\*\* Additional sources for help! \*\***

University Tutorial & Supplemental Instruction (Ransom Hall 205): UTSI offers a variety of academic support services for undergraduate students, including: 60 minute one-on-one tutoring sessions, Start Strong Freshman tutoring program, and Supplemental Instruction. Office hours are Monday-Friday 8:00am-5:00pm. For more information visit www.uta.edu/utsi or call 817-272-2617.

The IDEAS Center (2nd Floor of Central Library) offers FREE tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. Students can drop in, or check the schedule of available peer tutors at www.uta.edu/IDEAS, or call (817) 272-6593.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering**. Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://wweb.uta.edu/aao/fao/> ).

Disability Accommodations: UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including The Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA), and Section 504 of the Rehabilitation Act. All instructors at UT Arlington are required by law to provide “reasonable accommodations” to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a letter certified by the Office for Students with Disabilities (OSD). Only those students who have officially documented a need for an accommodation will have their request honored. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:

The Office for Students with Disabilities, (OSD) [www.uta.edu/disability](http://www.uta.edu/disability) or calling 817-272-3364. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability) .

Counseling and Psychological Services, (CAPS) [www.uta.edu/caps/](http://www.uta.edu/caps/) or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

Non-Discrimination Policy: The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit [www.uta.edu/eos](http://www.uta.edu/eos) .

Title IX Policy: The University of Texas at Arlington (“University”) is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. *For information regarding Title IX, visit* [www.uta.edu/titleIX](http://www.uta.edu/titleIX) or contact Ms. Michelle Willbanks, Title IX Coordinator at (817) 272-4585 or titleix@uta.edu

Academic Integrity: Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

*I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*

*I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code in their courses by having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System Regents’ Rule 50101, §2.2, suspected violations of university’s standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student’s suspension or expulsion from the University. Additional information is available at <https://www.uta.edu/conduct/> . Faculty are encouraged to discuss plagiarism and share the following library tutorials <http://libguides.uta.edu/copyright/plagiarism> and <http://library.uta.edu/plagiarism/>

**Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly.** There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php> .

Campus Carry: Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit <http://www.uta.edu/news/info/campus-carry/>

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as “lecture,” “seminar,” or “laboratory” shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit http://www.uta.edu/sfs.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week **unless specified in the class syllabus.** During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is located at the hallway side of the room. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Students are encouraged to subscribe to the MavAlert system that will send information in case of an emergency to their cell phones or email accounts. Anyone can subscribe at https://mavalert.uta.edu/ or https://mavalert.uta.edu/register.php

Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), 2-3003 (campus phone). You may also dial 911. Non-emergency number 817-272-3381

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at <http://www.uta.edu/universitycollege/resources/index.php>