CSCI 3333: Algorithms and Data Structures

SYLLABUS

Spring 2026

Course Information

Meeting Days and Time:

Section 05: MW 9:30 am – 10:45 am, EIEAB 1.212.

Section 06: MW 12:30 pm – 1:45 pm, EIEAB 1.212.

Campus Maps

Course Modality: Traditional Face-to-Face Courses

Instructor Information

Instructor Name: Robert Schweller

UTRGV E-mail: robert.schweller@utrgv.edu
Office Phone: 956-665-2667
Office Location: EIEAB 3.220
Office Hours: MW: 11 am-12:15, M: 2:30 pm-3:30 pm, W: 2 pm-3:30 pm, and by appointment.

Welcome and Teaching Philosophy

Welcome to the class. I am excited to have you all as my students this semester. My teaching philosophy is centered around creating an inclusive and collaborative learning environment where students feel comfortable asking questions, participating in discussions, and actively engaging with the material. I believe that every student has unique strengths and talents, and it is my goal to help each of you reach your full potential.

In order to achieve this, I encourage regular attendance and participation in class, as well as completing all assigned readings and homework. Additionally, I am available during office hours to provide extra support and answer any questions you may have. I highly encourage you to take advantage of office hours, as it is a great opportunity to get one-on-one help and clarification on any material you may be struggling with.

Course Description, Prerequisites & Course Modality

Description and Prerequisites. A continuation of the topics covered in CSCI 2380 and CSCI 3310. Focuses on the analysis and design of algorithms (sorting, searching, dynamic programming) and

data structures (priority queues, trees, hash tables, graphs). Also covers C++ implementation of algorithms and data structures discussed.
Mode of Learning. Lectures, quizzes, and exams will occur in-person during lecture hours. Homework will be submitted online.

Program **Student Learning Outcomes**	**Student Learning Outcomes** (After completing this course, a student should be able to)	**Major Course Requirement/Major Assignment/Examination**
(1) Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.	• Understand basic data structures and abstract data types. • Gain an appreciation of the variety, theoretical nature, and practical uses of data structures.	Homework, quizzes, and exams
(2) An ability to design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.	• Select appropriate data structures for uses in computer programs. • Design and implement efficient algorithms based on the selected data structures.	Homework, quizzes, and exams
(6)) An ability to apply computer science theory and software development fundamentals to produce computing-based solutions.	• Understand the basic techniques of algorithm design and analysis. • Understand the basic concepts of computational complexity	Homework, quizzes, and exams

Course Assignments & Learning Objectives

Assessment of Learning

The course will include lectures by the instructor, quizzes, and homework.

Quizzes: (10%) Most of the sessions have a quiz that is relevant to the topic being covered in the class. They will usually be submitted electronically through Blackboard or on paper.

Homeworks: (20%) The assignments are usually programming. These assignments are comprised of problems that aim to allow the students to practice with the methods covered in class and develop ideas to manipulate these methods. No late homework is accepted. However, one missing assignment may be submitted for full credit at the end of the semester.

Exams: (70%) The material in this course is naturally cumulative, with each week's topics building on all the prior material. Therefore, we have 3 exams, including the final exam. Each exam will focus on the material covered since the previous exam, however, the student is expected to understand and apply all previous course material.

The course grade is determined by computing the **weighted** total (out of 100%) of all four parts and applying the following percentage-to-letter-grade function: 90%-100% → A, 80%-89% → B, 70%79% → C, 60%-69% → D, 0%-59% → F. Grades may be curved to reflect the overall performance of the class.

You must take all tests, participate in all class activities, and turn in all assignments on time. If you are going to miss any class session or deadline **for any reason** you must contact me **ahead of time** or, in the case of emergency, as soon as possible. Depending on the reason, I will determine what options you have to make up the work, possibly with a penalty. In general, if you contact me ahead of time and/or have a good reason or emergency, we can work something out. If you come to me after the fact, options, if any, will be limited. The title of your email should be **CSCI3333-Absense**.

Late Work and Make Up Policies

Class work and labs will not be accepted late. No make-up exams will be given except for university sanctioned excused absences. If you need to miss an exam, it is your responsibility to contact me before the exam, or as soon after the exam as possible. Missing an exam without an approved (by the university or me) excuse will result in a zero.

Required Readings, Technology Needs, and Resource Materials

- **Data Structures and Algorithm Analysis in C++**, 4th edition by Mark A. Weiss. Earlier editions are fine as well.
- **Daily access to course webpage, class discord channel, and Blackboard.** We will use the class webpage to post information and homework. We will host discussions and post announcements on the class Discord channel. will also use Blackboard to submit homework assignments. Please check the course regularly. It is your responsibility to keep updated with class.

Tentative Calendar of Activities

Below is a rough schedule of the course and topics covered; the exact schedule will be maintained and updated on the webpage.

_ Week 1 : Review of Basics.

_ Week 2 : Asymptotic Notation, C++ tools.
_ Weeks 3-4 : Sorting algorithms.
_ Weeks 3-4 : Divide and Conquer Algorithms
_ Weeks 5-7 : Trees-based data structures.
_ Weeks 8-10 : Hash tables and heaps.
_ Weeks 11-13 : Graph algorithms.
_ Weeks 14-15 : Dynamic programming.
_ Week 15: NP-Completeness

The UTRGV academic calendar can be found on My.UTRGV at the bottom of the screen prior to login.

Course Policies and Procedures

We value a positive and supportive learning environment, and for us to thrive together, we must recognize that our responsibilities, actions, and contributions can impact and transform our learning. The course policies listed below are created to ensure your success by fulfilling course expectations while remaining flexible to account for unexpected events.

LEARNING AND TEACHING ENVIRONMENT

Consider including a brief description of what you envision as the learning and teaching environment in your course and the role the instructor and student play in contributing to this vision and to a safe, learning-enriching educational environment for all.

ATTENDANCE

Students are expected to attend all scheduled classes. UTRGV's attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics, accommodation by Student Accessibility Services (SAS), observance of religious holy days, or military service.

ABSENCES/SICK POLICY

If you are going to miss any class session or deadline for any reason you must contact me ahead of time or, in the case of emergency, as soon as possible. Depending on the reason, I will determine what options you have to make up the work, possibly with a penalty. In general, if you contact me ahead of time and/or have a good reason or emergency, we can work something out. If you come to me after the fact, options, if any, will be limited.

COURSE DROPS

Please consider the following information when referencing course drops. Instructor-initiated drops can have significant financial consequences for students. According to UTRGV policy, students may drop any class without penalty earning a grade of DR (drop) until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the "3-peat rule" and the "6-drop" rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher

education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.

ACADEMIC INTEGRITY

Academic integrity is fundamental in our actions, as any act of dishonesty conflicts as much with academic achievement as with the values of honesty and integrity. Violations of academic integrity include, but are not limited to: cheating, plagiarism (including self-plagiarism), and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts (Board of Regents Rules and Regulations, STU 02-100, and UTRGV Academic Integrity Guidelines). **All violations of Academic Integrity will be reported to Student Rights and Responsibilities through Vaqueros Report It.**

Student Support Resources

Center Name	E-mail
Advising Center	AcademicAdvising@utrgv.edu
Career Center	CareerCenter@utrgv.edu
Counseling Center	Counseling@utrgv.edu
Food Pantry	FoodPantry@utrgv.edu
Learning Center	LearningCenter@utrgv.edu
University Library	circulation@utrgv.edu
Writing Center	WC@utrgv.edu
UCentral	ucentral@utrgv.edu

Technical Support

If you need assistance with course technology (Bright Space) at any time, please contact the Center for Online Learning and Teaching Technology (COLTT).

University Policy Statements

SEXUAL MISCONDUCT AND MANDATORY REPORTING

(Required)

In accordance with UT System regulations, your instructor is a “Responsible Employee” for reporting purposes under Title IX regulations and so must report any instance of sexual misconduct, which includes sexual assault, stalking, dating violence, domestic violence, and sexual harassment to the Office of Title IX and Equal Opportunity (otixeo@utrgv.edu). More information can be found on the OTIXEO website. If students, faculty, or staff would like confidential assistance, or have questions, they can contact OAVP (Office for Advocacy & Violence Prevention).

STUDENT ACCESSIBILITY SERVICES

Student Accessibility Services has offices on Brownsville and Edinburg campuses. Visit the SAS web page to learn more and explore accessibility services.

STUDENTS WITH DISABILITIES

Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive reasonable academic accommodations should contact **Student Accessibility Services (SAS)** for additional information. The student must apply for accommodations using the *mySAS* portal and is responsible for providing sufficient documentation of the disability to SAS. Upon submission of the request, students should expect to participate in an interactive discussion, or an intake appointment, with SAS staff. Accommodations may be requested at any time but are not retroactive, meaning they are valid moving forward after approval by SAS. Students should contact SAS early in the semester/module for guidance.

Students who experience a broken bone, severe injury, or undergo surgery may also be eligible for temporary accommodations. Please contact **Student Accessibility Services (SAS)** for more information.

PREGNANCY, PREGNANCY-RELATED, AND PARENTING ACCOMODATIONS

Title IX of the Education Amendments of 1972 prohibits discrimination based on sex, which includes discrimination based on pregnancy, marital status, or parental status.

Students seeking accommodations related to pregnancy, pregnancy-related condition, or parenting should submit the request using the form found at Pregnancy and Parenting | UTRGV.

MANDATORY COURSE EVALUATION PERIOD

Students have the opportunity to complete an ONLINE evaluation of this course through Watermark Course Evaluations and Surveys, which may be accessed through my.UTRGV or the Bright Space course module. Course evaluations are used by the instructor to inform revisions of the course to ensure student success. Course evaluations are also used by the instructor for annual performance review, promotion applications, teaching award applications, among others.

Online evaluations will be available on or about:

Spring Module 1 (7 weeks)	February 18 – 24, 2026
Spring 2026 Regular Term	April 15 – May 6, 2026
Spring Module 2 (7 weeks)	April 15 – April 21, 2026