

# INF 385T, Section 1: Web Application Development

28670

Fall 2023

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**CLASS MEETS:** 09:00 AM - 12:00 PM, Monday UTA 1.212

**Instructor: Obianuju Okafor Ph.D.**

Office: TBA

Pronouns: she/her/hers

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Phone:

Office hours: Mondays 2:00pm to 3:00 pm  
and by appointment

## Course Description

### UNIVERSITY CATALOG COURSE DESCRIPTION

This course introduces the fundamentals of accessible web application development. Students will learn to apply heuristic and accessibility principles to create web applications that are user-friendly and accessible to all. Students will be walked through all the steps involved in developing a web application such as requirements gathering, designing, coding, testing, deployment, and maintenance. Topics include, but are not limited to software development life cycle, software requirements, accessibility, user interface design, database management, software testing, and software maintenance. Students will be required to engage in class discussions, complete in-class and homework assignments, give oral presentations, work in small groups, and complete a semester project where they will deliver an artifact at the end.

### PRE-REQUISITES FOR THE COURSE

This course assumes students will have some prior knowledge or experience in user experience (UX) and/or human-computer interaction (HCI). No prior programming experience is required.

### LEARNING OUTCOMES

1. Understand the web application development process and its different models
2. Elicit user needs and translate them to user needs
3. Design low and high-fidelity prototypes
4. Write clean and concise code
5. Understand accessibility and how to achieve it in an application
6. Conduct accessibility, usability, and unit tests
7. Deploy and maintain a web application
8. Conduct peer reviews
9. Communicate software products and processes in oral and written form

## How Will You Learn?

### STATEMENT OF LEARNING SUCCESS

Your success in this class is important to me. We all learn differently, and everyone struggles sometimes. You are not, ever, the only one having difficulty! If there are aspects of this course that prevent you from learning or exclude you, please let me know as soon as possible. Together we will develop strategies to meet both your needs and the requirements of the course. I also encourage you to reach out to the student resources available through UT and I am happy to connect you with a person or Center if you would like.

### TEACHING MODALITY INFORMATION

Class meetings will be conducted in-person (requires in-person attendance). There will be no alternative to in-person attendance. Class meetings may entail a lecture, discussion, group learning projects and presentations.

### COMMUNICATION

The course Canvas site can be found at [utexas.instructure.com](https://utexas.instructure.com). Please email me through Canvas. You are responsible for ensuring that the primary email address you have recorded with the university is the one you will check for course communications because that is the email address that Canvas uses.

### ASKING FOR HELP

The best way to ask questions to the instructor (and teaching assistants) outside of class time is through email. Questions can also be asked during office hours. Office hours will be conducted in-person or online via appointment.

### DISABILITY & ACCESS (D&A)

The university is committed to creating an accessible and inclusive learning environment consistent with university policy and federal and state law. Please let me know if you experience any barriers to learning so I can work with you to ensure you have equal opportunity to participate fully in this course. If you are a student with a disability, or think you may have a disability, and need accommodations please contact Disability & Access (D&A). Please refer to the D&A website for more information: <http://diversity.utexas.edu/disability/>. If you are already registered with D&A, please deliver your Accommodation Letter to me as early as possible in the semester so we can discuss your approved accommodations and needs in this course.

## Course Requirements and Grading

### REQUIRED MATERIALS

There is no textbook. Resources are provided on Canvas and you can use others as needed by the project.

### REQUIRED DEVICES

Laptops which can connect to the internet are required and will be used during some class sessions.

### CLASSROOM EXPECTATIONS

#### **Class attendance**

All students are expected to be present and prompt in all classes. You will be graded directly on attendance. In most classes there will be in-class exercises which will not be made up. See section Absences for permutable situations for missing class.

**Class participation** Class participation is included in the course grade. It is important that you participate in class discussions, ask answer and questions whenever possible.

**Behavior expectations**

Your first priority at school is to learn. Avoid distractions that interfere with or are counter-intuitive to that mission. Do not become a distraction for others. Use school-appropriate language and behavior at all times while maintaining friendly and courteous behavior. Be polite and respectful to everyone, including students, teachers, administrators, support staff, and visitors.

**ASSIGNMENTS**

The following table represents how you will demonstrate your learning and how we will assess the degree to which you have done so.

Assignments	Points Possible	Percent of Total Grade
1. Software development models		6%
2. User interface prototypes		6%
3. Queries to database and response.		6%
4. Unit test suites and black-box testing		6%
5. Accessibility errors found and what was done to fix it		6%

**LATE WORK AND MAKING UP MISSED WORK**

Late submissions for homework and semester project deliverables will be accepted with a penalty. In-class assignments will not be allowed to be submitted late. For homework assignments, I will accept late submissions for up to 24 hours beyond the due date for a 5% penalty and up to 48 hours for a 10% penalty. For semester project deliverables, I will accept late submissions up to 24 hours for a 10% penalty. Submissions beyond the late submission window will NOT be accepted unless:

1. The instructor granted an extension in advance of the due date.
2. Document was provided of an unforeseeable circumstance(s) (as assessed by the instructor’s discretion).

**ABSENCES**

Other than an occasional need to be absent from class (for a valid reason), you should plan to be in class. You will be graded directly on attendance and class participation. There will also be in-class assignments which are graded. In-class assignments will not be made up. I allocate a portion of class time for teams to work on their semester project. If you are absent or are unable to participate in your team meetings, it is your responsibility to communicate to your team regarding your absence and how you can contribute.

Excused Absence: The only absences that will be considered excused are for religious holy days or extenuating circumstances due to an emergency. If you plan to miss class due to observance of a religious holy day, please let me know at least two weeks in advance. For religious holy days that fall within the first two weeks of the

semester, the notice should be given on the first day of the semester. You will not be penalized for this absence, although you will still be responsible for any work you will miss on that day if applicable. Check with us for details or arrangements.

If you have to be absent, use your resources wisely. Check materials on Canvas (including recorded lectures, lecture slides etc.), ask your team and other classmates to get a run-down and notes on any lessons you miss. If you find there are topics that we covered while you were gone that raise questions, you may want to contact the instructor and schedule a meeting to discuss. If you arrange such a meeting, please email me specific questions you have in advance so that I can make the most of our time. “What did I miss?” is not specific enough. If you have to miss class for an extended period due to a protracted illness or similar reason, I will treat your needs as a special case and I will do everything I can to help you survive and complete the class.

**+/- GRADNG POLICY**

+/- grades will be used for the final class grade

**GRADE BREAKS**

Grade	Cutoff
A	94%
A-	90%
B+	87%
B	84%
B-	80%
C+	77%
C	74%
C-	70%
D+	67%
D	64%
D-	60%
F	<60%

**Course Outline**

All instructions, assignments, readings, rubrics and essential information will be on the Canvas website at [utexas.instructure.com](http://utexas.instructure.com). Check Canvas regularly. **Changes** to the schedule may be made at my discretion if circumstances require. I will announce any such changes in class and will also communicate them via a Canvas announcement. It is your responsibility to note these changes when announced, and I will do my best to ensure that you are notified of changes with as much advance notice as possible.



Week	Date	Day	Class Topic	In Class Activities	Assignments Due at 11:59pm
1.	08/21	Mon	<ul style="list-style-type: none"><li>Course overview</li><li>Fundamentals of web development</li></ul>	Self & student introduction	Nothing due
2	08/28	Mon	<ul style="list-style-type: none"><li>Software development process</li><li>Software requirements</li></ul>	Requirements gathering exercise	Deliverable 1: Teams proposal via GitHub
3	09/04	Mon	Holiday		Assignment 1: Software development models
4	09/11	Mon	<ul style="list-style-type: none"><li>Software requirements cont.</li><li>Software analysis and design</li></ul>	UML diagrams	Nothing due
5	09/18	Mon	<ul style="list-style-type: none"><li>User interface design<ul style="list-style-type: none"><li>Prototyping</li></ul></li></ul>	Create simple user interface on Figma	Deliverable 2: Project proposal due including team members, project name, project goals, software requirements, UML diagrams etc.
6	09/25	Mon	Front-end development: HTML & CSS	Create and style registration form	Assignment 2: user interface prototypes
7	10/02	Mon	Front-end development: JavaScript	Add functionality to form using PHP & JavaScript	Nothing due
8	10/09	Mon	Mid-term project presentation		<ul style="list-style-type: none"><li>Deliverable 3: Midterm report and presentation slides</li><li>First peer review</li></ul>
9	10/16	Mon	Back-end development: Database Management System	Setup and connect to a database	Nothing due

Week	Date	Day	Class Topic	In Class Activities	Assignments Due at 11:59pm
10	10/23	Mon	Back-end development: Local Server & Cloud deployment	Set up and connect to server	Assignment 3: 5 queries to database and response.
11	10/30	Mon	Software testing: Unit, System, Integration testing	Unit test creation	Nothing due
12	11/06	Mon	<ul style="list-style-type: none"> <li>Usability/UX</li> <li>Usability testing</li> </ul>	Usability testing exercise	Assignment 4: Unit test suites and black-box testing
13	11/13	Mon	<ul style="list-style-type: none"> <li>Web accessibility</li> <li>Accessibility testing</li> </ul>	Find accessibility errors in a sample website	Deliverable 4: Usability testing feedback 2nd peer review
14	11/20	Mon	Thanksgiving break		Assignment 5: Accessibility errors found and what was done to fix it
15	11/27	Mon	Maintenance and documentation		Nothing due
16	12/4	Mon	Final presentation and demo		<ul style="list-style-type: none"> <li>Deliverable 5: Final report and presentation slides</li> <li>Deliverable 6: Artifact</li> </ul>
17	12/11		Finals week		Final peer review

## Course Policies and Disclosures

### HONOR CODE

The University of Texas at Austin strives to create a dynamic and engaging community of teaching and learning where students feel intellectually challenged; build knowledge and skills; and develop critical thinking, creativity, and intellectual curiosity. As a part of this community, it is important to engage in assignments, exams, and other work for your classes with openness, integrity, and a willingness to make mistakes and learn from them. The UT Austin honor code champions these principles:

I pledge, as a member of the University of Texas community, to do my work honestly, respectfully, and through the intentional pursuit of learning and scholarship.

The honor code affirmation includes three additional principles that elaborate on the core theme:

- I pledge to be honest about what I create and to acknowledge what I use that belongs to others.
- I pledge to value the process of learning in addition to the outcome, while celebrating and learning from mistakes.
- This code encompasses all of the academic and scholarly endeavors of the university community.

The honor code is more than a set of rules, it reflects the values that are foundational to your academic community. By affirming and embracing the honor code, you are both upholding the integrity of your work and contributing to a campus culture of trust and respect.

#### ACADEMIC INTEGRITY EXPECTATIONS

Students who violate University rules on academic misconduct are subject to the student conduct process. A student found responsible for academic misconduct may be assigned both a status sanction and a grade impact for the course. The grade impact could range from a zero on the assignment in question up to a failing grade in the course. A status sanction can range from a written warning, probation, deferred suspension and/or dismissal from the University. To learn more about academic integrity standards, tips for avoiding a potential academic misconduct violation, and the overall conduct process, please visit the Student Conduct and Academic Integrity website at: <http://deanofstudents.utexas.edu/conduct>.

#### CONFIDENTIALITY OF CLASS RECORDINGS

Class recordings are reserved only for students in this class for educational purposes and are protected under FERPA. The recordings should not be shared outside the class in any form. Violation of this restriction by a student could lead to Student Misconduct proceedings.

#### GETTING HELP WITH TECHNOLOGY

Students needing help with technology in this course should contact the [ITS Service Desk](#) or the teaching assistant.

## SHARING OF COURSE MATERIALS IS PROHIBITED

No materials used in this class, including, but not limited to, lecture hand-outs, videos, assessments (quizzes, exams, papers, projects, homework assignments), in-class materials, review sheets, and additional problem sets, may be shared online or with anyone outside of the class without explicit, my written permission. Unauthorized sharing of materials may facilitate cheating. The University is aware of the sites used for sharing materials, and any materials found online that are associated with you, or any suspected unauthorized sharing of materials, will be reported to [Student Conduct and Academic Integrity](#) in the Office of the Dean of Students. These reports can result in initiation of the student conduct process and include charge(s) for academic misconduct, potentially resulting in sanctions, including a grade impact.

## ARTIFICIAL INTELLIGENCE

“The creation of artificial intelligence tools for widespread use is an exciting innovation. These tools have both appropriate and inappropriate uses in classwork. The use of artificial intelligence tools (such as ChatGPT) in this class:

- ...is strictly prohibited. This includes using AI to generate ideas, outline an approach, answer questions, solve problems, or create original language. All work in this course must be your own or created in group work, where allowed.
- ...shall be permitted on a limited basis. You will be informed as to the assignments for which AI may be utilized. You are also welcome to seek my prior-approval to use AI writing tools on any assignment. In either instance, AI writing tools should be used with caution and proper citation, as the use of AI should be properly attributed. Using AI writing tools without my permission or authorization, or failing to properly cite AI even where permitted, shall constitute a violation of UT Austin’s Institutional Rules on academic integrity.
- ...is permitted for students who wish to use them, provided the content generated by AI is properly cited.

If you are considering the use of AI writing tools but are unsure if you are allowed or the extent to which they may be utilized appropriately, please ask.”

For more information about AI in education, see the Center for Teaching and Learning’s [“5 Things to Know about ChatGPT” webpage](#) that includes [additional suggested syllabi statements](#) for your consideration.]

## RELIGIOUS HOLY DAYS

By [UT Austin policy](#), you must notify me of your pending absence for a religious holy day as far in advance as possible of the date of observance. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, you will be given an opportunity to complete the missed work within a reasonable time after the absence.

## NAMES AND PRONOUNS

Class rosters are provided to the instructor with the student’s legal name, unless they have added a chosen name with the registrar’s office. If you have not yet done so, I will gladly honor your request to address you with the name and pronouns that you prefer for me to use for you. It is helpful to advise me of any changes or needs



regarding your name and pronouns early in the semester so that I may make appropriate updates to my records and be informed about how to support you in this class.

- For instructions on how to add your pronouns to Canvas, visit [this site](#).
- If you would like to update your chosen name with the registrar's office, you can do so [here](#), and reference [this guide](#).
- For additional guidelines prepared by the Gender and Sexuality Center for changing your name on various campus systems, see the Resources page under UT Resources [here](#).

## LAND ACKNOWLEDGMENT

I would like to acknowledge that we are meeting on the Indigenous lands of Turtle Island, the ancestral name for what now is called North America. Moreover, I would like to acknowledge the Alabama-Coushatta, Caddo, Carrizo/Comecrudo, Coahuiltecan, Comanche, Kickapoo, Lipan Apache, Tonkawa and Ysleta Del Sur Pueblo, and all the American Indian and Indigenous Peoples and communities who have been or have become a part of these lands and territories in Texas.

## Important Safety Information

### CARRYING OF HANDGUNS ON CAMPUS

Students in this class should be aware of the following university policies related to Texas' Open Carry Law:

- Students in this class who hold a license to carry are asked to [review the university policy regarding campus carry](#).
- Individuals who hold a license to carry are eligible to carry a concealed handgun on campus, including in most outdoor areas, buildings and spaces that are accessible to the public, and in classrooms.
- It is the responsibility of concealed-carry license holders to carry their handguns on or about their person at all times while on campus. Open carry is NOT permitted, meaning that a license holder may not carry a partially or wholly visible handgun on campus premises or on any university driveway, street, sidewalk or walkway, parking lot, parking garage, or other parking area.
- Per my right, I prohibit carrying of handguns in my personal office. Note that this information will also be conveyed to all students verbally during the first week of class. This written notice is intended to reinforce the verbal notification, and is not a "legally effective" means of notification in its own right.

### TITLE IX DISCLOSURE

Beginning January 1, 2020, Texas Education Code, Section 51.252 (formerly known as Senate Bill 212) requires all employees of Texas universities, including faculty, to report to the [Title IX Office](#) any information regarding incidents of sexual harassment, sexual assault, dating violence, or stalking that is disclosed to them. Texas law requires that all employees who witness or receive information about incidents of this type (including, but not limited to, written forms, applications, one-on-one conversations, class assignments, class discussions, or third-party reports) must report it to the Title IX Coordinator. Before talking with me, or with any faculty or staff member about a Title IX-related incident, please remember that I will be required to report this information.

Although graduate teaching and research assistants are not subject to Texas Education Code, Section 51.252, they are [mandatory reporters](#) under federal Title IX regulations and are required to report [a wide range of](#)

[behaviors we refer to as sexual misconduct](#), including the types of misconduct covered under Texas Education Code, Section 51.252. Title IX of the Education Amendments of 1972 is a federal civil rights law that prohibits discrimination on the basis of sex – including pregnancy and parental status – in educational programs and activities. The Title IX Office has developed supportive ways and compiled campus resources to support all impacted by a Title IX matter.

If you would like to speak with a case manager, who can provide support, resources, or academic accommodations, in the Title IX Office, please email: [supportandresources@austin.utexas.edu](mailto:supportandresources@austin.utexas.edu). Case managers can also provide support, resources, and accommodations for pregnant, nursing, and parenting students.

For more information about reporting options and resources, please visit: <https://titleix.utexas.edu>, contact the Title IX Office via email at: [titleix@austin.utexas.edu](mailto:titleix@austin.utexas.edu), or call 512-471-0419.

## CAMPUS SAFETY

The following are recommendations regarding emergency evacuation from the [Office of Emergency Management](#), 512-232-2114:

- Students should sign up for Campus Emergency Text Alerts at the page linked above.
- Occupants of buildings on The University of Texas at Austin campus must evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.
- Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.
- Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.
- In the event of an evacuation, follow the instruction of faculty or class instructors. Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.
- For more information, please visit the [Office of Emergency Management](#).

## University Resources

For a list of university resources that may be helpful to you as you engage with and navigate your courses and the university, see the [University Resources Students Canvas page](#).