TEXAS
The University of Texas at Austin

INF385T, Special Topics in Information Science: Javascript Programming

27845

Fall 2024

CLASS MEETS: Wed 06:00 PM - 09:00 PM UTA 1.212

Instructor: Luis Francisco Revilla

Pronouns: he/his/ him

Email: use Canvas messaging system

Office hours: by appointment

Course Description

JavaScript is the most used programming language in the world. It is the programming language of the Web. Javascript supports front-end and back-end development, avoiding the need to use multiple programming languages. On the front-end Javascript is used extensively to create interactive user interfaces, websites, and mobile applications. On the back-end, programmers can us Node.js to build Javascript systems that interact with the Web browsers. In addition, many frameworks and add-ons are based on Javascript, including: React, Angular, jQuery, and D3. Javascript is a robust language that provides an easy way to get into programming. JavaScript supports valuable skills that programmers can later on apply to other languages, such Python, Java or C++. These skills include object-oriented and asynchronous programming. Object-oriented programming is a way of thinking, that produces code that is organized and structured for maximum reusability.

This course is for students with or without previous programming experience. Students without previous programming experience will learn how to program and will acquire a set of transferable skills. Students with previous programming experience will learn how to transfer their programming skills to a new language, and will gain a deeper understanding of front-end and user interface development.

PRE-REQUISITES FOR THE COURSE

This course is intended for students that do not know how to program in Javascript. While knowledge of other programming languages such as Pyton is useful, it is not required to take this course. Students without previous programming knowledge will be able to succeed in this course.

LEARNING OUTCOMES

This course will teach students to program in Javascript. We will review the programming process, how to solve a coding problem, and how to debug coding errors. Since Javascript is an object-oriented programming language, we will talk about how to think, design and organize solutions in terms of objects and their associated properties and methods. Finally, we will learn how Javascript works, its fundamental concepts, correct syntax, and best programming practices. After this course, students will be able to:

1. understand how to write and debug programs
2. understand object-oriented programming
3. understand the fundamentals of the Javascript language, including:
    a. lexical structure, proper syntax, and idiomatic practices
    b. closures and asynchronous programming
    c. object-oriented programming in Javascript
    d. basic client-server architecture
4. write Javascript programs that run on modern Web browsers

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. If you have difficulty, please remember that you are not alone! I encourage you to ask questions, and to share your experience with your programming partner and group teammates. If there are aspects of this course that prevent you from learning or exclude you, please let me know as soon as possible. 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.

A key aspect for learning success is peer support. This course is structured specifically to support this by using **pair programming**. In pair programming, students will work in pairs, using just one laptop. This approach has many benefits, both for students and later on for developers. Benefits include: more efficient work, higher code quality, stronger communication between students, shared best practices, collective code ownership, faster training of new team members. We will cover Pair Programming in class. Additionally, students can find online resources at:
https://about.gitlab.com/blog/2021/02/04/remote-pair-programming-tips/

TEACHING MODALITY

This course is structured to be taught in-person. Class activities include lectures, programming exercises, discussions of the readings, and question-answer sessions about difficult topics. In addition, this course includes out-of-class activities including: readings, programming assignments, and a final project. It is expected that all students complete their reading assignments before class. This course is not designed for remote attendance, therefore lectures will not be posted.

Every class has three parts: a lecture, a practice, and a summary. The lecture will review the contents of the reading assignment assuming that students have read the corresponding chapter. In addition, this phase of the class includes a question-answer session in order to clarify points of confusion. The second part of class is devoted to practice where students use the pair programming approach to solve the in-class exercise. The final

part for every class is the summary, in which we will revise the solutions to the in-class assisgnment and answer new questions that might have risen.

Class	Activities
1. Lecture	• Review the contents from the reading assignment • Question-answer session
2. Practice	• Students work in pair programming, solving the in-class exercise
3. Summary	• Review the solutions to the in-class exercises • Final question-answer session

Table 1. In-class Activities

COMMUNICATION

The course Canvas site can be found at 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

We all need help at some point. One option is to ask and get support from your programming partner (pair programming). Another option is to ask your teammates in group assignments. Of course, you can also ask me questions, and send me messages using Canvas. We can set up help sessions, in-person, or online, as best fit the situation.

DIVERSITY, EQUITY AND INCLUSION

It is my intent that students from diverse backgrounds and perspectives are well served by this course, that students' learning needs be addressed, and that the diversity that students bring to this class can be comfortably expressed and treated as a resource, strength and benefit to all students. Please come to me at any time with any concerns.

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.

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Course Requirements and Grading

REQUIRED MATERIALS

- David Flanagan, “JavaScript: The Definitive Guide: Master the World's Most-Used Programming Language”, 7th Edition, O’Reilly Media, ISBN 1491952024, June 2020

REQUIRED DEVICES

It is expected that every student has a laptop or personal computer. In addition, there are many online resources. It is expected that students have internet access.

CLASSROOM EXPECTATIONS

Class attendance. It is expected that all students attend class. While this normally means attending in person, if you are sick, or at risk of being sick, I will set up a zoom session using Canvas. Please communicate this need as soon as possible so we can prepare. Exams require in-person attendance. If you are sick and have to attend an exam online, please let me know ahead of time so we can prepare for it.

A key aspect of this course is that students work in pairs during class solving a programming exercise. Missing class will imply missing the graded in-class exercises. These exercises count for the final grade (see below).

Class participation. Class participation is instantiated by in-class exercises. It is expected that all students attend class and work on the exercises, which will be submitted during class.

Behavior expectations. It is expected that all students follow the Student Discipline and Conduct as provided by the University. Detail information about the code of conduct can be found at: https://deanofstudents.utexas.edu/sa/downloads/InstRulesCh11.pdf

This course includes individual and collaborative activities that will ask you to work individually, in pairs, or in a group. It is expected that you respect the boundaries of collaboration as specified for each activity, and that you behave professionally and collaboratively when working with another student. In case of personal differences, please message me so we can find an appropriate solution.

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. In-class exercises (Pair programming)	100	25%
2. Exam 1 (Individual)	100	25%
3. Exam 2 (Individual)	100	25%
4. Final Project (Group)	100	25%
5. Reading Assignments	N/A	0%
Final Grade		**100%**

Table 2. Assignment Weights for Final Grade

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Reading Assignments

Every week has a reading assignment, the number of pages vary as well as the complexity of the concepts. It is expected that you complete your readings before class, such that you are prepared for the lecture / review of the chapter and have already prepared your questions so we can discuss them in class.

In-class Exercise

In every class, after the lecture time, we will work in an in-class exercise. This assignment needs to be completed in class, and will require understanding the content covered up to the day of class.

Exams 1 and 2

This course includes two exams that will assess the level of understanding of all the readings, class lectures, and in-class exercises. Exams will be conducted in-person in class, and will include theory and practice questions.

Final Project

This assignment is designed to showcases students' ability to write Javascript code that meets a list of functional requirements. The final project will be a group assignment that will create an interactive web page that allows the user to manipulate different widgets and interface components, and adapt the interface to the user.
Groups for the project will be 3-4 students. You have to submit your groups by week 7. The Final Project specifications will be posted on Canvas after week 8.

The final project requires considerable time to complete.

LATE WORK AND MAKING UP MISSED WORK

Late work is not accepted. If you are facing a situation that will interfere with a deadline, please talk with me ahead of time to see if we can figure out a solution.

ABSENCES

While it is expected that all students attend class, I do not take roster. Missing class does have the implication of missing the in-class exercises.

USE OF A CURVE

Grading for this course is intended to reflect your personal knowledge and ability to write Javascript code. This assessment is not referential to the performance of other students. As such, grading does not include using a curve for grades.

+/- GRADING POLICY

The final grade will use +/- as specified in the following table

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GRADE BREAKS

Grade	Cutoff
A	95%
A-	90%

Grade	Cutoff
B+	87%
B	84%
B-	80%

Grade	Cutoff
C+	77%
C	74%
C-	70%

Grade	Cutoff
D+	67%
D	64%
D-	60%

Grade	Cutoff
F	<60%

Table 3. Grade Breaks

Course Outline

All instructions, assignments, readings, rubrics and essential information will be on the Canvas website at 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	Class Topic	Readings Chapters	Pages	Assignments Due
1.	28-Aug	Introduction			
2.	4-Sep	Lexical Structure	1-2	22	In-class exercise 1
3.	11-Sep	Types and Variables	3	28	In-class exercise 2
4.	18-Sep	Expressions	4	36	In-class exercise 3
5.	25-Sep	Statements	5	32	In-class exercise 4
6.	2-Oct	Objects	6	25	In-class exercise 5
7.	9-Oct	Arrays	7	36	In-class exercise 6
8.	16-Oct	**Exam 1**			
9.	23-Oct	Functions	8	40	In-class exercise 7
10.	30-Oct	Classes	9	27	In-class exercise 8
11.	6-Nov	Standard Library	11	60	In-class exercise 9
12.	13-Nov	Modules, Iterators and Generators	10 + 12	18 + 14	In-class exercise 10
13.	20-Nov	Javascript in Browsers	15	(Selection)	In-class exercise 11
14.	27-Nov	*Fall Break*			
15.	4-Dec	**Exam 2**			
16.	11-Dec	*No class: Study days*			
17.	**14-Dec**	**Final Project Presentation**			

Table 4. Course Outline

Notice: Final Project is SATURDAY DECEMBER 14, 7-9 PM

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Course Policies and Disclosures

ACADEMIC INTEGRITY EXPECTATIONS

Students who violate University rules on academic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since such dishonesty harms the individual, other students, and the integrity of the University, policies on academic dishonesty will be strictly enforced. For further information, please visit the Student Conduct and Academic Integrity website at: http://deanofstudents.utexas.edu/conduct

The goal of the course is for you to learn to program in JavaScript. Therefore, tools that write the code for you are not permitted. This includes automatic code generation tools, AI tools, or any other code-producing tools. Please refrain from approaches that hide your knowledge or skill in programming.

Collaboration is strongly encouraged in this course, but you must respect the boundaries of each assignment. That is, when working in pairs, work only with your pair. When working in a group, work only with your group.

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 should contact the ITS Service Desk or the Ischool Help Desk

CONTENT WARNING

Our classroom provides an open space for s critical and civil exchange of ideas. Some content in this course may include topics that some students may find offensive and/or traumatizing. I'll aim to forewarn students about potentially disturbing content and I ask all students to create an atmosphere of mutual respect and sensitivity.

BASIC NEEDS SECURITY

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support. UT maintains the UT Outpost, which is a free on-campus food pantry and career closet. Furthermore, if you are comfortable notifying me, please do so, as I may have additional resources I can share.

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, written permission of the instructor. Unauthorized sharing of materials promotes cheating. The University is well 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 sanctions, including failure of the course.

RELIGIOUS HOLY DAYS

By UT Austin policy, you must notify me of your pending absence as far in advance as possible of the date of observance of a religious holy day. If you must miss a class, an exam, 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

Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender identity & expression, and nationalities. 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, which you can do so here. I will gladly honor your request to address you by a name that is different from what appears on the official roster, and by the pronouns you use (she/he/they/ze, etc.). Please advise me of any changes early in the semester so that I may make appropriate updates to my records. For instructions on how to add your pronouns to Canvas, visit this site. More resources available on the Gender and Sexuality Center's website, www.utgsc.org.

University Resources for Students

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.

COUNSELING AND MENTAL HEALTH CENTER (CMHC)

I urge students who are struggling with their mental health and who believe that it might impact their performance in the course to reach out to me if they feel comfortable. This will allow me to provide any resources or accommodations that I can. If immediate mental health assistance is needed, call the Counseling and Mental Health Center (CMHC) at 512-471-3515 or you may also contact Bryce Moffett, LCSW (iSchool CARE counselor) at 512-232-2983. Outside CMHC business hours (8a.m.-5p.m., Monday-Friday), contact the CMHC 24/7 Crisis Line at 512-471-2255.

UNIVERSITY HEALTH SERVICES (UHS)

Your physical health and wellness are a priority. University Health Services is an on-campus high-quality medical facility providing care to all UT students. Services offered by UHS include general medicine, urgent care, a 24/7 nurse advice line, gynecology, sports medicine, physical therapy, lab and radiology services, COVID-19 testing and vaccinations and much more. For additional information, visit https://healthyhorns.utexas.edu or call 512-471-4955.

SANGER LEARNING CENTER

Did you know that more than one-third of UT undergraduate students use the Sanger Learning Center each year to improve their academic performance? All students are welcome to take advantage of Sanger Center's classes and workshops, private learning specialist appointments, peer academic coaching, and tutoring for more than 70 courses in 15 different subject areas. For more information, please visit https://ugs.utexas.edu/slc or call 512-471-3614 (JES A332)."

STUDENT EMERGENCY SERVICES (SES)

Student Emergency Services in the Office of the Dean of Students helps students and their families during difficult or emergency situations. Assistance includes outreach, advocacy, intervention, support, and referrals to relevant campus and community resources. If you need to be absent from class due to a family emergency, medical or mental health concern, or academic difficulty due to crisis or an emergency situation, you can work with Student Emergency Services. SES will document your situation and notify your professors. Additional information is available at https://deanofstudents.utexas.edu/emergency/ or by calling 512-471-5017.

Important Safety Information

If you have concerns about the safety or behavior of fellow students, TAs or professors, contact BCCAL (the Behavior Concerns and COVID-19 Advice Line) at https://safety.utexas.edu/behavior-concerns-advice-line or by calling 512-232-5050. Confidentiality will be maintained as much as possible, however the university may be required to release some information to appropriate parties.

CLASSROOM SAFETY AND COVID-19

- For any illness, students should stay home if they are sick or contagious, not only to stop the spread, but also to promote their personal wellness.
- The university will continue to provide rapid antigen self-test kits at distribution sites throughout campus. Students can receive up to four tests at a time.
- The university will provide symptomatic COVID-19 testing on campus for all students, faculty and staff.
- UHS maintains up-to-date resources on COVID, which can be found here:
    - COVID-19 Information and Resources
    - COVID-19 Exposure Action Chart

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CARRYING OF HANDGUNS ON CAMPUS

Texas' Open Carry law expressly prohibits a licensed to carry (LTC) holder from carrying a handgun openly on the campus of an institution of higher education such as UT Austin. Students in this class should be aware of the following university policies:

- 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 any information to the Title IX Office regarding sexual harassment, sexual assault, dating violence and stalking that is disclosed to them. Texas law requires that all employees who witness or receive any information of this type (including, but not limited to, writing assignments, class discussions, or one-on-one conversations, or third-party reports) must report it. 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 to the Title IX Coordinator. If you would like to speak with someone who can provide support or remedies without making an official report to the university, please email supportandresources@austin.utexas.edu. For more information about reporting options and resources, visit http://www.titleix.utexas.edu/, contact the Title IX Office via email at titleix@austin.utexas.edu, or call 512-471-0419.

Although graduate teaching and research assistants are not subject to Texas Education Code, Section 51.252, they are still mandatory reporters under Federal Title IX laws and are required to report a wide range of behaviors we refer to as sexual misconduct, including the types of sexual misconduct covered under Texas Education Code, Section 51.252.The Title IX office has developed supportive ways to respond to a survivor and compiled campus resources to support all impacted by a Title IX incident.

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CAMPUS SAFETY

The following are recommendations regarding emergency evacuation from the Office of Campus Safety and Security, 512-471-5767,

- 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 emergency preparedness.