Syllabus

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Syllabus

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Welcome to CSC311: Computer Systems and Programming Tools.

In this syllabus you will find an overview of the course, information about your instructor, course policies, restatements of URI policies, reminders of relevant resources, and a schedule for the course.

This is a live document that will change over time, but a pdf copy is available for direct download or to view on GitHub. If you download it, it will be outdated.

Computer Systems and Programming Tools

About this course

In this course we will study the tools that we use as programmers and use them as a lens to study the computer system itself. We will begin with two fundamental tools: version control and the shell. We will focus on git and bash as popular examples of each. Sometimes understanding the tools requires understanding an aspect of the system, for example git uses cryptographic hashing which requires understanding number systems. Other times the tools helps us see how parts work: the shell is our interface to the operating system.

About this syllabus

This syllabus is a *living* document. You can get notification of changes from GitHub by “watching” the repository You can view the date of changes and exactly what changes were made on the Github repository page.

Creating an issue is also a good way to ask questions about anything in the course it will prompt additions and expand the FAQ section.

Should you download the syllabus and rely on your offline copy?

No, because the syllabus changes

About your instructor

Name: Dr. Sarah M Brown

Dr. Sarah M Brown is a third year Assistant Professor of Computer Science, who does research on how social context changes machine learning. Dr. Brown earned a PhD in Electrical Engineering from Northeastern University, completed a postdoctoral fellowship at University of California Berkeley, and worked as a postdoctoral research associate at Brown University before joining URI. At Brown University, Dr. Brown taught the Data and Society course for the Master's in Data Science Program. You can learn more about me at my website or my research on my lab site.

Name: Ayman Sandouk Office hours: listed on communication page

Ayman is a Masters studenent at the Universitry of Rhode Island with Bachelors in CS from URI. Ayman's research is currently focusing on benchmarking LLMs for fairness

The best way to contact me is e-mail or an issue on an assignment repo. For more details, see the Communication Section

Land Acknowledgement

Important

The University of Rhode Island land acknowledgment is a statement written by members of the University community in close partnership with members of the Narragansett Tribe. For more information see the university land acknowledgement page

The University of Rhode Island occupies the traditional stomping ground of the Narragansett Nation and the Niantic People. We honor and respect the enduring and continuing relationship between the Indigenous people and this land by teaching and learning more about their history and present-day communities, and by becoming stewards of the land we, too, inhabit.

Schedule

Overview

The following is a tentative outline of topics in an order, these things will be filled into the concrete schedule above as we go. These are, in most cases bigger questions than we can tackle in one class, but will give the general idea of how the class will go.

How does this class work?

~ one week

We will start by introducing some basics of GitHub and setting expectations for how the course will work. This will include how you are expected to learn in this class which requires a bit about how knowledge production in computer science works and getting started with the programming tools.

What tools do Computer Scientists use?

Next we'll focus in on tools we use as computer scientists to do our work. We will use this as a way to motivate how different aspects of a computer work in greater detail. While studying the tools and how they work, we will get to see how some common abstractions are re-used throughout the fields and it gives a window and good motivation to begin considering how the computer actually works.

Topics:

- bash
- linux
- git
- i/o
- ssh and ssh keys
- number systems
- file systems

What Happens When I run code?

Finally, we'll go in really deep on the compilation and running of code. In this part, we will work from the compilation through to assembly down to hardware and then into machine representation of data.

Topics:

- software system and Abstraction
- programming languages
- cache and memory
- compiliation
- linking
- basic hardware components

Recommended workload distribution

> **Note**
>
> General badge deadlines are on the detailed badge procedures page.

To plan your time, I recommend expecting the following:

- 30 minutes, twice per week for prepare work (typically not this much).

- 1.5(review)-3(practice) hours, twice per week for the dated badges (including revisions).

For each explore :

- 30 min for proposal
- 7 hours for the project

For each build:

- 1.5 hour for the proposal (including revisions)
- 22 hours for the project
- 30 min for the final reflection

This is a four credit course, meaning we have approximately 4 hours of class + lab time per week($75 \times 2 + 105 = 255$ minutes or 4.25 hours). By the accredidation standards, students should spend a minimum of 2 hours per credit of work outside of class over 14 weeks. For a 4 credit class, then, the expected minimum number of hours of work outside of class you should be spending is 112 hours(2 * 4 * 14). With these calculations, given that there are 26 class sessions and only 18 review or practice are required, it is possible to earn an A with approximately 112 hours of work outside of class and lab time.

Tentative Timeline

> **Warning**
>
> This section is not yet updated for Spring 2025.
>
> This is a rough example.

This is the planned schedule, but is subject to change in order to adapt to how things go in class or additional questions that come up.

```
import pandas as pd
pd.read_csv('schedule.csv',index_col='date').sort_index()
```

date	question	keyword	conceptual	practical	social	activity
2025--	Welcome, Introduction, and Setup	intro	what is a system, why study tools	GitHub basics	class intros	create kwl repo in github, navigate github.com...
2025--	Course Logistics and Learning	logistics	github flow with issues	syllabus	working together and building common vocab	set up to work offline together, create a folder
2025--	Bash intro & git offline	terminal start	git structure, paths and file system	bash path navigation, git terminal authentication	why developers work differently than casual users	navigate files and clone a repo locally
2025--	How can I work with branches offline?	gitoffline	git branches	github flow offline, resolving merge conflicts	commuication is important, git can help fix mi...	clone a repo and make a branch locally
2025--	When do I get an advantage from git and bash?	why terminal	computing mental model, paths and file structure	bash navigation, tab completion	collaboration requires shared language, shared...	work with bash and recover from a mistake with...
2025--	What *is* a commit?	merge conflicts	versions, git vlaues	merge conflicts in github, merge conflicts wit...	human and machine readable, commit messages ar...	examine commit objects, introduce plumbing com...
2025--	How do programmers communicate about code?	documentation	build, automation, modularity, pattern matching,	generate documentation with jupyterbook, gitig...	main vs master, documentation community	make a jupyterbook
2025--	What *is* git?	git structure	what is a file system, how does git keep track...	find in bash, seeing git config, plumbing/porc...	git workflows are conventions, git can be used...	examine git from multiple definitions and insp...
2025--	Why are these tools like this?	unix philosophy	unix philosophy, debugging strategies	decision making for branches	social advantages of shared mental model, diff...	discussion with minor code examples
2025--	How does git make a commit?	git internals	pointers, design and abstraction, intermediate...	inspecting git objects, when hashes are unique...	conventions vs requirements	create a commit using plumbing commands
2025--	How can can I release and share my code?	git references	pointers, git branches and tags	git branches, advanced fixing, semver and conv...	advantages of data that is both human and mach...	make a tag and release
2025--	What is a commit number?	numbers	hashes, number systems	git commit numbers, manual hashing with git	number systems are derived in culture	discussion and use hashing algorithm
2025--	How can I automate things with bash?	bash scripting	bash is a programming language, official docs,...	script files, man pages, bash variables, bash ...	using automation to make collaboration easier	build a bash script that calculates a grade

date	question	keyword	conceptual	practical	social	activity
2025--	How can I work on a remote server?	server	server, hpc, large files	ssh, large files, bash head, grep, etc	hidden impacts of remote computation	log into a remote server and work with large f...
2025--	What is an IDE?	IDE	IDE parts	compare and contrast IDEs	collaboraiton features, developer communities	discussions and sharing IDE tips
2025--	How do I choose a Programming Language for a p...	programming languages	types of PLs, what is PL studying	choosing a language for a project	usability depends on prior experience	discussion or independent research
2025--	How can I authenitcate more securely from a te...	server use	ssh keys, hpc system strucutre	ssh keys, interactive, slurm	social aspects of passwords and security	configure and use ssh keys on a hpc
2025--	What Happens when we build code?	building	building C code	ssh keys, gcc compiler	file extensions are for people, when vocabular...	build code in C and examine intermediate outputs
2025--	What happens when we run code?	hardwar	von neuman architecture	reading a basic assembly language	historical context of computer architecures	use a hardware simulator to see step by step o...
2025--	How does a computer represent non integer quan...	floats	float representation	floats do not equal themselves	social processes around standard developents, ...	work with float representation through fractio...
2025--	How can we use logical operations?	bitwise operation	what is a bit, what is a register, how to brea...	how an ALU works	tech interviews look for obscure details somet...	derive addition from basic logic operations
2025--	What *is* a computer?	architecture	physical gates, history	interpretting specs	social context influences technology	discussion
2025--	How does timing work in a computer?	timing	timing, control unit, threading	threaded program with a race condition	different times matter in different cases	write a threaded program and fix a race condition
2025--	How do different types of storage work together?	memory	different type of memory, different abstractions	working with large data	privacy/respect for data	large data that has to be read in batches
2025--	How does this all work together	review	all	end of semester logistics	group work final	review quiz, integration/reflection questions
2025--	How did this semester go?	feedback	all	grading	how to learn better together	discussion

Tentative Lab schedule

```
pd.read_csv('labschedule.csv',index_col='date').sort_index()
```

date	topic	activity
2025-01-27	unix philosophy	design a command line tool that would enable a...
2025-02-03	offline branches	plan for success, clean a messy repo
2025-02-10	git plumbing	git plumbing experiment
2025-02-19	scripting	releases and packaging
2025-02-24	GitHub Basics	syllabus quiz, setup
2025-03-03	os	hardware simulation
2025-03-10	tool familiarity	work on badges, self progress report
2025-03-17	remote, hpc	server work, batch scripts
2025-03-24	Machine representation	bits and floats and number libraries
2025-03-31	Compiling	C compiling experiments
2025-04-07	git plumbing	grade calculation script, self reflection
2025-04-14	working at the terminal	organization, setup kwl locally, manage issues
2025-04-21	hardware	self-reflection, work, project consultations

Tools and Resources

We will use a variety of tools to conduct class and to facilitate your programming. You will need a computer with Linux, MacOS, or Windows. It is unlikely that a tablet will be able to do all of the things required in this course. A Chromebook may work, especially with developer tools turned on. Ask Ayman if you need help getting access to an adequate computer.

All of the tools and resources below are either:

- paid for by URI **OR**
- freely available online.

BrightSpace

On BrightSpace, you will find links to other resource, this site and others. Any links that are for private discussion among those enrolled in the course will be available only from Brightspace.

Prismia chat

Our class link for Prismia chat is available on Brightspace. Once you've joined once, you can use the link above or type the url: prismia.chat. We will use this for chatting and in-class understanding checks.

On Prismia, all students see the instructor's messages, but only the Instructor and TA see student responses.

> **Important**
>
> Prismia is **only** for use during class, we do not read messages there outside of class time

You can get a transcript from class from Prismia.chat using the menu in the top right.

Course Website

The course website will have content including the class policies, scheduling, class notes, assignment information, and additional resources.

Links to the course reference text and code documentation will also be included here in the assignments and class notes.

GitHub

You will need a GitHub Account. If you do not already have one, please create one by the first day of class. If you have one, but have not used it recently, you may need to update your password and login credentials as the Authentication rules changed in Summer 2021.

You will also need the gh CLI. It will help with authentication and allow you to work with other parts of GitHub besides the core git operations.

> **Important**
>
> You need to install this on Mac

Programming Environment

In this course, we will use several programming environments. In order to participate in class and complete assignments you need the items listed in the requirements list. The easiest way to meet these requirements is to follow the recommendations below. I will provide instruction assuming that you have followed the recommendations. We will add tools throughout the semester, but the following will be enough to get started.

> **Warning**
>
> This is not technically a *programming* class, so you will not need to know how to write code from scratch in specific languages, but we will rely on programming environments to apply concepts.

Requirements:

- Python with scientific computing packages (numpy, scipy, jupyter, pandas, seaborn, sklearn)
- a C compiler

- Git
- access to a bash shell
- A high compatibility web browser (Safari will sometimes fail; Google Chrome and Microsoft Edge will; Firefox probably will)
- nano text editor (comes with GitBash and default on MacOS)
- one IDE with git support (default or via extension)
- the GitHub CLI on all OSs

Recommendation

Windows- option A | **Windows - option B** | **MacOS** | **Linux** | **Chrome OS**

- If you will not do any side projects, install python via Anaconda video install
- Otherwise, use the base python installer and then install libraries with pip
- Git and Bash with GitBash (video instructions).

Zoom

(backup only & office hours only)

This is where we will meet if for any reason we cannot be in person. You will find the link to class zoom sessions on Brightspace.

URI provides all faculty, staff, and students with a paid Zoom account. It *can* run in your browser or on a mobile device, but you will be able to participate in office hours and any online class sessions if needed best if you download the Zoom client on your computer. Please log in and configure your account. Please add a photo (can be yourself or something you like) to your account so that we can still see your likeness in some form when your camera is off. You may also wish to use a virtual background and you are welcome to do so.

For help, you can access the instructions provided by IT.

Grading

This section of the syllabus describes the principles and mechanics of the grading for the course. The course is designed around your learning so the grading is based on you demonstrating how much you have learned.

Additionally, since we will be studying programming tools, we will use them to administer the course. To give you a chance to get used to the tools there will be a grade free zone for the first few weeks.

Each section be viewed at two levels of detail. You can toggle the tabs and then the whole page will be at the level of your choice as you scroll.

TL;DR | **Full Detail**

this will be short explanations; key points you should **remember**

Learning Outcomes

TL;DR **Full Detail**

The goal is for you to learn and the grading is designed to as close as possible actually align to how much you have learned.

You should be a more independent and efficient developer and better collaborator on code projects by the end of the semester.

Principles of Grading

TL;DR **Full Detail**

- Learning happens with practice and feedback
- I value **learning** not perfect performance or productivity
- a C means you can follow a conversation about the material, but might need help to apply it
- a B means you can *also* apply it in basic scenarios or if the problem is broken down
- an A means you can *also* apply it in complex scenarios independently

please do not make me give you less than a C, but a D means you showed up basically, but you may or may not have actually retained much

The course is designed to focus on **success** and accumulating knowledge, not taking away points.

If you made an error in an assignment what do you need to do?

Read the suggestions and revise the work until it is correct.

Penalty-free Zone

TL;DR **Full Detail**

We will use developer tools to do everything in this class; in the long term this will benefit you, but it makes the first few weeks hard, so **mistakes in the first few weeks cannot hurt your grade** as long as you learn eventually.

Deadlines are *extra flexible* for 3 weeks while you figure things out.

What happens if you merged a PR without feedback?

During the Penalty-Free zone, we will help you figure that out and fix it so you get credit for it. After that, you have to fix it on your own (or in office hours) in order to get credit.

Important

If there are terms in the rest of this section that do not make sense while we are in the penalty-free zone, do not panic. This zone exists to help you get familiar with the terms needed.

What happens if you're confused by the grading scheme right now?

Nothing to worry about, we will review it again in week three after you get a chance to build the right habits and learn vocabulary. There will also be a lab activity that helps us to be sure that you understand it at that time.

Learning Badges

TL;DR | **Full Detail**

Different badges are different levels of complexity and map into different grades.

- experience: like attendance
- lab: show up & try
- review: understand what was covered in class
- practice: apply what was covered in class
- explore: get a mid-level understanding of a topic of your choice
- build: get a deep understanding of a topic of your choice

To pass:

- 22 experience badges
- 12 lab checkouts

Add 18 review for a C or 18 practice for a B.

For an A you can choose:

- 18 review + 3 build
- 18 pracitce + 6 explore

you can mix & match, but the above plans are the simplest way there

Warning

These counts assume that the semester goes as planned and that there are 26 available badges of each base type (experience, review, practice). If the number of available badges decreases by more than 2 for any reason (eg snowdays, instructor illness, etc) the threshold for experience badges will be decreased.

All of these badges will be tracked through PRs in your kwl repo. Each PR must have a title that includes the badge type and associated date. We will use scripts over these to track your progress.

Important

There will be 20 review and practice badges available after the penalty free zone. This means that missing the review and practice badges in the penalty free zone cannot hurt you. However, it does not mean it is a good idea to not attempt them, not attempting them at all will make future badges harder, because reviewing early ideas are important for later ideas.

You cannot earn both practice and review badges for the same class session, but most practice badge requirements will include the review requirements plus some extra steps.

In the second half of the semester, there will be special *integrative* badge opportunities that have multipliers attached to them. These badges will count for more than one. For example an integrative 2x review badge counts as two review badges. These badges will be more complex than regular badges and therefore count more.

Can you do any combination of badges?

No, you cannot earn practice and review for the same date.

Experience Badges

In class

You earn an experience badge in class by:

- preparing for class
- following along with the activity (creating files, using git, etc)
- responding to 80% of inclass questions (even incorrect, `\idk`, `\dgt`)
- reflecting on what you learned
- asking a question at the end of class

Makeup

You can make up an experience badge by:

- preparing for class
- reading the posted notes
- completing the activity from the notes
- completeing an “experience report”
- attaching evidence as indiated in notes OR attending office hours to show the evidence

Tip

On prismia questions, I will generally give a “Last chance to get an answer in” warning before I resume instruction. If you do not respond at all too many times, we will ask you to follow the makeup procedure instead of the In Class proccedure for your experience badge.

To be sure that your response rate is good, if you are paying attention, but do not have an answer you can use one of the following special commands in prismia:

- `\idk`: “I am paying attention, but do not know how to answer this”
- `\dgt`: “I am paying attention, not really confused, but ran out of time trying to figure out the answer”

you can send these as plain text by pressing `enter` (not Mac) or `return` (on Mac) to send right away or have them render to emoji by pressing `tab`

An experience report is evidence you have completed the activity and reflection questions. The exact form will vary per class, if you are unsure, reach out ASAP to get instructions. These are evaluated only for completeness/ good faith effort. Revisions will generally not be required, but clarification and additional activity steps may be advised if your evidence suggests you may have missed a step.

Do you earn badges for prepare for class?

No, prepare for class tasks are folded into your experience badges.

What do you do when you miss class?

Read the notes, follow along, and produce and experience report or attend office hours.

What if I have no questions?

Learning to ask questions is important. Your questions can be clarifying (eg because you misunderstood something) or show that you understand what we covered well enough to think of hypothetical scenarios or options or what might come next. Basically, focused curiosity.

Lab Checkouts

You earn credit for lab by attending and completing core tasks as defined in a lab issue posted to your repo each week. Work that needs to be correct through revisions will be left to a review or practice badge.

You will have to have a short meeting with a TA or intructor to get credit for each lab. In the lab instructions there will be a checklist that the TA or instructor will use to confirm you are on track. In these conversations, we will make sure that you know how to do key procedural tasks so that you are set up to continue working independently.

To make up a lab, complete the tasks from the lab issue on your own and attend office hours to complete the checkout.

Review and Practice Badges

The tasks for these badges will be defined at the bottom of the notes for each class session *and* aggregated to badge-type specific pages on the left hand side fo the course website.

You can earn review and practice badges by:

- creating an issue for the badge you plan to work on
- completing the tasks
- submitting files to your KWL on a new branch
- creating a PR, linking the issue, and requesting a review
- revising the PR until it is approved
- merging the PR after it is approved

> **Where do you find assignments?**
>
> At the end of notes and on the separate pages in the activities section on the left hand side

You should create one PR per badge

The key difference between review and practice is the depth of the activity. Work submitted for review and practice badges will be assessed for correctness and completeness. Revisions will be common for these activities, because understanding correctly, without misconceptions, is important.

> **Important**
>
> Revisions are to help you improve your work **and** to get used to the process of making revisions. Even excellent work can be improved. The **process** of making revisions and taking good work to excellent or excellent to exceptional is a useful learning outcome. It will help you later to be really good at working through PR revisions; we will use the same process as code reviews in industry, even though most of it will not be code alone.

Explore Badges

Explore badges require you to pose a question of your own that extends the topic. For inspiration, see the practice tasks and the questions after class.

Details and more ideas are on the explore page.

You can earn an explore badge by:

- creating an issue proposing your idea (consider this ~15 min of work or less)
- adjusting your idea until given the proceed label
- completing your exploration
- submitting it as a PR
- making any requested changes
- merging the PR after approval

For these, ideas will almost always be approved, the proposal is to make sure you have the right scope (not too big or too small). Work submitted for explore badges will be assessed for depth beyond practice badges and correctness. Revisions will be more common on the first few as you get used to them, but typically decraese as you learn what to expect.

> **Important**
>
> Revisions are to help you improve your work **and** to get used to the process of making revisions. Even excellent work can be improved. The **process** of making revisions and taking good work to excellent or excellent to exceptional is a useful learning outcome. It will help you later to be really good at working through PR revisions; we will use the same process as code reviews in industry, even though most of it will not be code alone.

You should create one PR per badge

Build Badges

Build badges are for when you have an idea of something you want to do. There are also some ideas on the build page.

You can earn a build badge by:

- creating an issue proposing your idea and iterating until it is given the “proceed” label
- providing updates on your progress
- completing the build
- submitting a summary report as a PR linked to your proposal issue
- making any requested changes
- merging the PR after approval

You should create one PR per badge

For builds, since they’re bigger, you will propose intermediate milestones. Advice for improving your work will be provided at the milestones and revisions of the compelte build are uncommon. If you do not submit work for intermediate review, you may need to revise the complete build. The build proposal will assessed for relevance to the course and depth. The work will be assessed for completeness in comparison to the propsal and correctness. The summary report will be assessed only for completeness, revisions will only be requested for skipped or incomplete sections.

Community Badges

TL;DR **Full Detail**

These are like extra credit, they have very limited ability to make up for missed work, but can boost your grade if you are on track for a C or B.

🎁 Free corrections

TL;DR **Full Detail**

If you get a 🎁 apply the changes to get credit.

Important

These free corrections are used at the instructional team's discretion and are not guaranteed.

This means that, for example, the first time you make a particular mistake, might get a 🎁, but the second time you will probably get a hint, and a third or fourth time might be a regular revision with a comment like `see #XX and fix accordingly` where XX is a link to a previous badge.

IDEA

If the course response rate on the IDEA survey is about 75%, 🎁 will be applicable to final grading. **this includes the requirement of the student to reply**

Ungrading Option

TL;DR | **Full Detail**

You should try to follow the grading above; but sometimes weird things happen. I care that you learn.

If you can show you learned in some other way besides earning the badges above you may be able to get a higher grade than your badges otherwise indicate.

What do you think?

share your thoughts on this option in the discussions for the class and then log it for a community badge!

Support Systems

Mental Health and Wellness:

We understand that college comes with challenges and stress associated with your courses, job/family responsibilities and personal life. URI offers students a range of services to support your mental health and wellbeing, including the URI Counseling Center, TELUS Health Student Support App, the Wellness Resource Center, the Psychological Consultation Center, the URI Couple and Family Therapy Clinic, and Well-being Coaching.

Academic Enhancement Center

Academic Enhancement Center (for undergraduate courses): All Academic Enhancement Center support services for Spring 2025 begin on January 27th and are offered at no added cost to undergraduate students. Visit AEC for more information about our programs described below. Appointments can be scheduled in TracCloud located in Microsoft 365.

- **STEM Tutoring**: Get peer tutoring for many 100 and 200 level STEM, Business, Nursing, and Engineering courses. Choose weekly or occasional sessions through TracCloud or visit the Drop-In Center in Carothers Library LL004. For more details visit STEM & BUS Tutoring.
- **Academic Skills Development**: Meet one-on-one with a peer academic coach to build habits and strategies around time management, goal setting, and studying. Contact Heather Price for more information. Click here for more details. UCS 160 and UCS 161 are 1 credit courses designed to improve your academic skills and strategies. Consider enrolling in one of these courses! Contact David Hayes with any questions or to schedule a professional staff academic consultation. Click here for more details.
- The **Undergraduate Writing Center**: Receive peer writing support at any stage of your writing process. Schedule in-person or online consultations through TracCloud or stop by Roosevelt Hall Room 20 -new location! Click here for more details.

General Policies

Anti-Bias Statement:

We respect the rights and dignity of each individual and group. We reject prejudice and intolerance, and we work to understand differences. We believe that equity and inclusion are critical components for campus community members to thrive. If you are a target or a witness of a bias incident, you are encouraged to submit a report to the URI Bias Resource Team. There you will also find people and resources to help.

Disability, Access, and Inclusion Services for Students Statement

This course is specifically designed to use universal design principles. Many of the standard accomodations that the DAI office provides will not apply to this course, because of how it is designed: there are no exams for you to get extra time on, and no slides for you to get in advance. However, I am happy to work with you to help you understand how to use the build in support systems for the course.

URI wide:

> Your access in this course is important. Please send me your Disability, Access, and Inclusion (DAI) accommodation letter early in the semester so that we have adequate time to discuss and arrange your approved academic accommodations. If you have not yet established services through DAI, please contact them to engage in a confidential conversation about the process for requesting reasonable accommodations in the classroom. DAI can be reached by calling: 401-874-2098, visiting: web.uri.edu/disability, or emailing: dai@etal.uri.edu.

Academic Honesty

Students are expected to be honest in all academic work. A student's name on any written work, quiz or exam shall be regarded as assurance that the work is the result of the student's own independent thought and study. Work should be stated in the student's own words, properly attributed to its source. Students have an obligation to know how to quote, paraphrase, summarize, cite and reference the work of others with integrity. The following are examples of academic dishonesty:

- Using material, directly or paraphrasing, from published sources (print or electronic) without appropriate citation
- Claiming disproportionate credit for work not done independently
- Unauthorized possession or access to exams
- Unauthorized communication during exams
- Unauthorized use of another's work or preparing work for another student
- Taking an exam for another student
- Altering or attempting to alter grades
- Fabricating or falsifying facts, data or references
- Facilitating or aiding another's academic dishonesty
- Submitting the same work for more than one course without prior approval from the instructors

> **Tip**
>
> Most assignments are tested against LLMs and designed so that outsourcing it to an LLM will likely lead to a submission that is below the bar of credit.

AI Use

All of your work must reflect your own thinking and understanding. The written work in English that you submit for review and practice badges must be your own work or content that was provided to you in class, it cannot include text that was generated by an AI or plagiarized in any other way. You may use auto-complete in all tools incuding, IDE-integrated development environment GitHub co-pilot (or similar, IDE embedded tool) for any code that is required for this course because the code is necessary to demonstrate examples, but language syntax is not the core learning outcome.

> **Important**
>
> It is not okay to copy-paste and submit anything from an LLM chatbot interface in this course

If you are found to submit prismia responses that do not reflect your own thinking or that of discussion with peers as directed, the experience badge for that class session will be ineligible.

If work is suspected to be the result of inappropriate collaboration or AI use, you will be allowed to take an oral exam in lab time to contest and prove that your work reflects your own understanding.

The first time you will be allowed to appeal through an oral exam. If your appeal is successful, your counter resets. If you are found to have violated the policy then the badge in question will be ineligible and your maximum number of badges possible to be earned will be limited according to the guidelines below per badge type (you cannot treat the plagiarized badge as skipped). If you are found to have violated the policy a second time, then no further work will be graded for the remainder of the semester.

If you are found to submit work that is not your own for a *review or practice* badge, the review and practice badges for that date will be ineligible and the penalty free zone terms will no longer apply to the first six badges.

If you are found to submit work that is not your own for an *explore or build* badge, that badge will not be awarded and your maximum badges at the level possible will drop by 1/3 of the maximum possible (2 explore or 1 build) for each infraction.

Attendance

“Attendance” is not explicitly checked, but participation in class through prismia is monitored, and lab checkouts and experience badges grade your engagement in the activities of lab and class respectively.

Viral Illness Precautions Statement

The University is committed to delivering its educational mission while protecting the health and safety of our community. Students who are experiencing symptoms of viral illness should NOT go to class/work. The Centers for Disease Control and Prevention (CDC) recommends that all people who are experiencing viral illness should stay home and away from others until symptoms improve and they are fever free (without medications) for 24 hours. They should take added precautions for the next 5 days.

If you miss class once, you **do not need to notify me** in advance. You can follow the makeup procedures on your own.

Excused Absences

Absences due to serious illness or traumatic loss, religious observances, military service, or participation in a university sanctioned event are considered excused absences.

You do not need to notify me in advance.

For *short absences* (1-2 classes), for any reason, you can follow the makeup procedures, no extensions will be provided typically for this; if extenuating circumstances arise, then ask Any instructor.

For *extended excused absences*, (3 or more classes) email Ayman when you are ready to get caught up and she will help you make a plan for the best order to complete missed work so that you are able to participate in subsequent activities. Extensions on badges will be provided if needed for excused absences. In your plan, include what class sessions you missed by date.

For unexcused absences, the makeup procedures apply, but not the planning assistance via email, only regularly scheduled office hours, unless you have class during all of those hours and then you will be allowed to use a special appointment.

Office Hours & Communication

Announcements

Announcements will be made via GitHub Release. You can view them online in the releases page or you can get notifications by watching the repository, choosing “Releases” under custom see GitHub docs for instructions with screenshots. You can choose GitHub only or e-mail notificaiton from the notification settings page

> ⚠ **Warning**
>
> For the first week announcements will be made by BrightSpace too, but after that, all course activities will be only on GitHub.

Sign up to watch

Watch the repo and then, after the first class, claim a community badge for doing so, using a link to these instructions as the “contribution” like follows.

```
- [watched the repo as per announcements](https://compsys-progtools.github.io/spring2025/syllabus
```

put this on a branch called `watch_community_badge` and title your PR “Community-Watch”

Help Hours

Day	Time	Location	Host
Monday	9am-12pm	Zoom	Ayman Sandouk
Tuesday	2:30pm-4:30pm	Tyler - Rm 139	Elijah Smith-Antonides
Wednesday	10am-12pm	Tyler - Rm 139	Trevor Moy

Online office hours locations and appointment links for alternative times are linked on the GitHub Organization Page

Important

You can only see them if you are a “member”. To join, make sure that you have completed Lab 0.

Tips

TLDR

Contribute a TLDR set of tabs or mermaid visual to this section for a community badge.

For assignment help

- use the badge issue for comments and @ mention instructors
- **send in advance, leave time for a response**
- **always** use issues in your repo for content directly related to assignments. If you push (changes to a repository) your partial work to the repository and then open an issue, we can see your work and your question at the same time and download it to run it if we need to debug something
- use issues or discussions for questions about this syllabus or class notes. At the top right there’s a GitHub logo ⓘ that allows you to open a issue (for a question) or suggest an edit (eg if you think there’s a tpo or you find an additional helpful resource related to something)

Note

I check e-mail/github a small number of times per day, during work hours, almost exclusively. You might see me post to this site, post to BrightSpace, or comment on your assignments outside of my normal working hours, but I will not reliably see emails that arrive during those hours. This means that it is important to start assignments early.

Should you e-mail your work?

No, request a pull request review or make an issue if you are stuck