# CSCI 320 Programming Language Concepts Syllabus (Fall 2026)

## Contents



# 1 Logistics

## 1.1 Instructional Staff


**Instructor:** Michael Levet (He/Him/His); lastnamefirstinitial (at) cofc (dot) edu.

### 1.2 Key Dates

**Last Day to Drop Before Grade of 'W' Is Recorded:** Friday, August 21.
**Last Day to Drop Before with Grade of 'W':** Thursday, October 22.
**Breaks:** October 12-13 (Fall Break); November 25-November 29 (Thanksgiving Break). Note that the last full day of classes for the semester is Tuesday December 1.
**Final Exam:** Thursday, December 3, 10:30 AM - 12:30 PM, in the usual classroom.

### 1.3 Course Website

All announcements will be posted to the course website: `https://michaellevet.github.io/F26/CSCI320/index.html`. Students are responsible for checking the course website daily. Assignments will be posted to OAKS. Course materials will otherwise be posted to the Google Drive.

### 1.4 Lecture

Section 02, TR 3:35-4:50, HWEA 301

I will attempt to provide a Zoom (remote synchronous) option for class as well as record lectures via Zoom, to the extent that technology cooperates. This is provided *as-is*, and students are responsible for the content covered in class regardless of whether technology cooperates. In particular, the instructor is **not** responsible if technology does not cooperate.

### 1.5 Office Hours

Office hours will be on Zoom. The Zoom link and days/times for office hours will be posted to my course homepage. Your success is my top priority– if any of these times don't work, please do not hesitate to email me to schedule an appointment! **If you have COVID or another contagious illness, please do not attend my office hours in-person. I will be happy to facilitate remote participation.**

## 2 Course Description

### 2.1 Prerequisites

The prerequisites include CSCI 230 Data Structures and Math 207 Discrete Structures I. This course relies **heavily** on **all** of the prerequisites. It is **dangerous** to take this course without a solid handle on the prerequisites. Please discuss ASAP with the instructor if you have concerns about your background.

- CSCI 230 Data Structures (Grade of C- or Better).
- Math 207 Discrete Structures I (Grade of C- or Better).

Note that CSCI 230 requires as a prerequisite Math 207 with a grade of C- or better. Note that Math 207 has as prerequisite Math 105, Math 111, or Math 120, which includes precalculus topics such as functions, exponentials, and logarithms. While I am very happy to answer questions outside of class, such as in office hours or over email, please be aware that course time will not be devoted to reviewing these precalculus skills.

### 2.2 Workload

CSCI 320 is a 3-credit course. Well-prepared students should expect to spend on average 9-12 hours/week outside of class. Students who have significant gaps in their backgrounds may find that they need to carve out additional time to review the prerequisite material. I am happy to discuss prerequisite content in office hours- please do not hesitate to reach out!

### 2.3 Course Content

In computer science, programming languages serve as fundamental tools. It is thus important to understand how our tools work, including how they are designed and implemented. CSCI 320 Principles of Programming Languages surveys these fundamental questions in computer science. In particular, we ask the following:

- What makes a (good) programming language?
- How are programming languages designed and implemented?
- What are various programming language paradigms, and what are the strengths and weaknesses of these paradigms?

Broadly speaking, the course will be divided into three units, focusing on (i) automata theory, (ii) implementation issues for programming languages, and (iii) programming language paradigms. Note that this course is mathematical in nature. Developing comfort with mathematical formalisms (definitions, notation, and the occasional proof) will be essential for success in this course.

**Remark 1.** I would recommend studying for CSCI 320 in a similar manner as Math 207/307 Discrete Structures I-II. While the material we cover has a myriad of applications, the focus will be on developing and understanding the techniques rather than on the applications themselves. The goal will be to prepare students to apply the techniques we develop beyond this course.

### 2.4 Learning Objectives

We have the following learning objectives in this course.

1. Identify the core characteristics of the programming language paradigms: procedural, object-oriented, functional and logic.
2. Use language formalism such as regular expressions and grammars (BNF) to specify programming language constructs.
3. Identify and describe the steps of a typical compiler and interpreter.
4. Explain the concept of binding including binding of names and referencing environments, binding times, scope and lifetime. Apply static and dynamic scope rules to examples.
5. Explain and apply parameter-passing methods.
6. List the steps required in processing subroutine calls and returns.
7. Explain concepts related to memory management during program execution.
8. Apply functional programming to specific examples.
9. Apply logic programming to specific examples.

### 2.5 Course Text

- The official course textbook is Programming Languages: Principles and Practices, by Kenneth Louden. (ISBN: 9780357671351). Earlier editions are fine; problems will not be assigned from the text.
- I also recommend Introduction to the Theory of Computation, by Michael Sipser as a supplemental reference for Automata Theory. In my experience, the exposition for Automata Theory tends to be clearer in Theory texts than in Programming Languages texts. Any edition of Sipser's text is fine.

**Caution:** Do be aware that the regular expression formulations vary wildly between different textbooks. I will present syntax in class; students will be responsible for using this syntax.

# 3 Course Structure and Grading

## 3.1 Grading Scheme

Assignments in this course will consist of a Syllabus Quiz (Section 3.3), Homework (Section 3.4), and Quizzes and Exams (Section 3.5). Homework will count for 10% of the final grade, and each assignment will be graded for completion (see Section 3.4 for details). Your two lowest HW assignments will be dropped from consideration; I recommend saving these for the end of the semester.

Quizzes and exams will count for the remaining 90% of the grade. These will be chunked into three units: Unit 1 Quiz Average, Unit 2 Quiz Average, and Unit 3 Quiz Average. For each $i \in \{1, 2, 3\}$, your Unit $i$ Quiz Average will be calculated as follows. If you attempt $\geq 50\%$ of the in-class quizzes during Unit $i$, then your Unit $i$ Quiz Average will be the maximum of the following two schemes. Otherwise, it will be Scheme 1.[1]

- **Scheme 1:** Each in-class quiz question and each question on the exam will count towards the denominator. Note that a quiz might have multiple questions. I will drop the lowest 10% of the in-class quiz questions (this does not include exam questions). The numerator will be the #Proficiency + #Outstanding. Precisely,
$$\text{Scheme 1} = \frac{\#\text{Proficiency} + \#\text{Outstanding}}{0.9 * \#\text{Quiz Questions} + \#\text{Unit } i \text{ Exam Questions}}.$$
- **Scheme 2:** Your Exam $i$ score, calculated at:
$$\text{Scheme 2} = \frac{\#\text{Proficiency} + \#\text{Outstanding} + 0.4 * \#\text{Progress}}{\#\text{Unit } i \text{ Exam Questions}}.$$

The Final Exam will play the role of the Unit 3 exam.

The breakdown for the quiz/exam average is as follows:

- Your Best Unit Quiz Average: 35% of your final grade.
- Your Second Best Unit Quiz Average: 30% of your final grade.
- Your Worst Unit Quiz Average: 25% of your final grade.

**Note:** This grading scheme incentivizes taking the quizzes seriously, throughout the entire semester. If you do well on the quizzes, then this provides some insulation for the exam. On the other hand, if you do poorly on the quizzes, but do well on the exam, then these poor quiz grades disappear entirely.

Final cutoffs will be awarded according to the following scale, subject to the following condition: if you do not successfully complete the Syllabus Quiz, then the highest grade you can earn is a C.

- A : $\geq 90\%$.
- A-: $\geq 88\%$.
- B+: $\geq 86\%$.
- B: $\geq 84\%$.
- B-: $\geq 80\%$.
- C+: $\geq 78\%$.
- C: $\geq 76\%$.
- C-: $\geq 70\%$.
- D+: $\geq 65\%$.

[1] Exceptions to this will only be made in emergency situations and at the instructor's discretion; please contact the instructor as soon as possible to discuss your situation.

- D: $\geq 60\%$.
- D-: $\geq 50\%$.
- F: $< 50\%$.

Grades in the **A** range indicate strong preparedness for subsequent courses in Theoretical Computer Science and Math. Grades in the **B** range indicate a strong understanding of the mechanics and a moderate understanding of the theoretical underpinnings. Grades in the **C** range indicate comfort with the mechanics, such as how to execute the algorithms or solve procedural problems.

### 3.2 Grading for Individual Problems

Submissions will be graded for correctness and clearly articulated reasoning. It is not enough to arrive at the correct answer. Supporting work and reasoning must also be included and **easy to follow**. That is, both your work (including attention to intermediary details) and the clarity in which it is presented will be graded.

Each problem will receive a score of NA < Attempted (ATT) < Progress (PR) < Proficiency (P) ≤ Outstanding (O) as follows.

- *O* (**Near Perfect**/**Outstanding**): The solution was near-perfect and clearly explained. This is almost a **textbook** caliber solution.
- *P* (**Demonstrated Proficiency**): The solution demonstrated proficiency, with perhaps minor (but not content-related) errors. While there may be room to improve the exposition, the solution was relatively easy to follow.
- *PR* (**Demonstrated Progress, but Fell Short of Proficiency**): The solution demonstrated some measure of understanding, but had significant errors or was extremely difficult to understand.
- *ATT* (**Attempted**/**Significant Errors or Misconceptions**): The solution demonstrated glaring misunderstandings, had significant or fatal errors.
- *NA* (**No meaningful attempt**).

Note that scores of Proficiency and Outstanding are considered **full credit**, though scores of Proficiency and Outstanding count equally. We stress that solutions do not need to be perfect in order to demonstrate proficiency (this is more favorable than partial credit). Scores of NA, ATT, and PR count equally (in that they do not contribute towards proficiency), but denote feedback as to how close one was to demonstrating proficiency. A score of PR means that you likely have some handle on the content, but need to iron out some misconceptions or pay closer attention to details. A score of ATT is alarming, and you should attempt to fix any misunderstandings immediately. Please stop by office hours so I can help you!

### 3.3 Syllabus Quiz

There will be a Syllabus Quiz. Despite the name, it will be structured as a HW, and you will have several days to complete it. Failure to successfully complete the syllabus quiz by the deadline may result in your final grade being capped at a C.

### 3.4 Homework

Homework will be assigned regularly, with clearly posted deadlines. Late homework will not be accepted, unless prior arrangements are made or in emergency situations. The instructor reserves the right to make the final determination as to what constitutes an emergency. Please discuss with me as soon as possible if you have a situation that may warrant an extension. Please submit your homework via OAKS.

- Homework must be **typed** using the provided LaTeX template. Diagrams (e.g., graphs, trees) may be hand-drawn and embedded in the LaTeXdocument as an image and **oriented so that we do not have to rotate our screens to grade your work.** Please note that **handwritten solutions or those prepared without LaTeXwill not be graded.** Similarly, **if we have to rotate our screens to grade your work, then your wil will not be graded.**
- **Mathematical equations do not qualify as diagrams and may not be handwritten on homework.**
- Both your **name** and **student ID** must be included in the appropriate fields. You **must** include these on your assignment. **If I cannot identify whose assignment is being graded, then that assignment will not be graded.**
- The first question on every homework will be an honor code agreement. Failure to indicate that you have upheld the honor code will result in your assignment not being graded.
- Using generative AI (including, but not limited to ChatGPT) and regurgitating a solution it produces is an **honor code violation**. Again, anything you produce must be in your own words and reflect your understanding of the material.
- You are welcome to discuss the problems with your classmates, as well as reference outside resources. **Anything you submit must be in your own words and reflect your understanding of the material. You should be able to explain your solutions to the instructor, such as in an interview grading session.** If there are any questions about this, it is your responsibility to contact the instructor reasonably ahead of the submission deadline. **Looking up solutions or copying from other sources (including your classmates) is an honor code violation.** You must **cite** any resource (other than the course text or the instructor) that you use. This includes any classmates with whom you collaborate. Failure to cite your sources will be treated as an **honor code violation.** See Section 3.7.
- Posting to online forums for help (e.g., Chegg, Reddit, StackExchange, etc.) is an **honor code violation.** See Section 3.7.
- Individual assignments may have additional instructions beyond the syllabus. Students are responsible for adhering to those instructions.

**Unless otherwise stated on a given assignment, students who make a good-faith effort on at least 75% of the problems (rounded up to the nearest integer) will receive full credit on that assignment.** It is not necessary that your work is *correct*, but it is necessary that the submission reflects your good-faith efforts and understanding of the material. The point of homework is to provide an opportunity to practice with the material and receive timely feedback. There is little point in providing feedback to an AI-generated answer.

### 3.5 Quizzes and Exams

There will be regular quizzes, given almost exclusively in-class. Students will have 20 minutes to take the quiz (scaled for students with disability accommodations). Unless otherwise stated, quizzes are open-book and open-note, but are individual efforts. Consulting anyone who is not a member of the instructional staff about a quiz, which includes your classmates, tutors, generative AI (including, but not limited to ChatGPT) and posting online (e.g., Chegg, Reddit, Discord, StackExchange, etc.) constitutes an **honor code violation.** Similarly, all answers must be in your own words and reflect your understanding of the material. Copying from any resource is strictly prohibited. Use of electronics during a quiz is strictly prohibited. See Section 3.7.

There will also be two midterms and a final, given in-class.

### 3.6 Regrade Requests

Students have 7 days (including weekends) from when a grade was returned to request a regrade. **I am happy to fix mistakes in grading. Other regrade requests will not be considered.** When you submit a regrade, please clearly indicate the error made in grading. All regrade requests must be submitted using the Google form on the course homepage.

### 3.7 Honor Code

I expect students are familiar with policies pertaining to academic integrity, outlined in the Student Handbook. Much of what you will learn about mathematics and theoretical computer science will come from your discussions with your peers. You are welcome and encouraged to discuss the homework problems with each other and with me. It is expected that you work the problems by yourself first, so that you can contribute to the discussion. This policy will be changed, reluctantly, if I find it is being abused. **Your submissions must be written in your own words and reflect your understanding of the material.** Note that you are responsible for citing any resource (including other people) that are not members of the course staff, the course lecture notes, or the lectures. Posting to online forums for help (e.g., Chegg, Reddit, StackExchange, etc.) is an **honor code violation.** Regurgitating solutions from generative AI (including, but not limited to ChatGPT) is an honor code violation. If there are any questions regarding this policy, please ask the instructor.

Any acts of suspected academic dishonesty will be reported to the Office of the Dean of Students and addressed through the conduct process. Students found responsible for honor code violations will be subject to the following minimum penalties:

1. You will receive a $-200\%$ on the assignment.
2. You will be reported to the Office of Academic Integrity, which may choose to impose additional penalties.

**Honor code violations may result in an XXF for the course**, which carries the same weight as an F. The XX modifier denotes that the grade was received for academic integrity violations. **Please do not cheat.** It is not worth it.

## 4 Course Policies

### 4.1 Office Hours: Norms and Expectations

There will be a mix of in-person and online office hours (see Section 1.5 for the Zoom link). The purpose of office hours is to supplement lecture and the associated readings. In order to get the most out of office hours, we recommend the following.

- Watch the lectures and read through the lecture notes. In particular, work through the provided examples. These materials are there to help you!
- Spend some time working the problems first. Try to identify specific approaches you have made, as well as identify where you are stuck. If you are spending more than 30 minutes on a single problem without making much progress, then I strongly encourage you to seek help in office hours!
- If you wish to discuss specific work, please have it typed up so that you can share your screen on Zoom. It is very hard to help you if your work is on paper and you are holding it up to the camera.
- My goal is to provide hints about homework problems, as well as help students obtain momentum to keep working. In particular, I aim to help students arrive at the solutions on their own. It is completely normal to need time to digest a hint, and then come back to office hours with more questions! Learning CS Theory and Math is an iterative process- we encourage students to iterate!
- Please note that I will neither provide entire solutions in office hours nor grade work ahead of the due date.

**Office Hours vs. Email:** I am generally happy to discuss course logistics via email (e.g., scheduling appointments, etc.). However, email is usually not a conducive medium for tutoring. If you email me with a question about the homework (and you are certainly welcome to do so), I reserve the right to ask you to come to office hours with your question. Note that this does associate some risk with procrastination, in that you may not get your question answered until after the assignment due date (or after the quiz/exam). Similarly, if you email me late at night, I may not see your email until after the assignment is due. Please plan accordingly.

### 4.2 Late Work

Late work will **not** be accepted, unless prior arrangements have been made or in case of emergency situations. The final determination as to what constitutes an emergency rests with the instructor. Extensions can be requested using the Google form on the course homepage. I recognize that you all will frequently have competing deadlines, including for your other classes as well as personal obligations. There is not always time to meet all of one's deadlines. The way to handle these situations is to communicate reasonably in advance. For non-emergency situations, please request an extension at least 24 hours in advance. This includes for university-sponsored events (including, but not limited to, athletics). In general, I encourage you to ask for what you need. While I will in general try to be flexible for short-term extensions, do note that that requesting an extension does not guarantee that you will receive one.

In the event of an emergency situation which prohibits you from turning in work before the deadline, I reserve the right to choose how to handle the situation. For long-term emergencies, please talk to me.

Note that missing the deadline by a couple minutes is not a valid reason for late work to be accepted. Homework due dates and times will be clearly posted. OAKS is the final arbiter of what is considered on-time, for homework. Please plan accordingly.

### 4.3 Late Enrollments

Students who enroll in the course after the first day of class are subject to the same deadlines as the rest of the class.

### 4.4 Attendance

Attendance is not required and will only be taken during the first two weeks, for the purpose of attendance verification as required by CofC. Students who have not engaged with class by attending, completing assignments, or emailing me may be reported as having "never attended." If you are sick, please stay home– let me know if this is in the first two weeks, so that you do not get dropped. In particular, if you have COVID, please quarantine until such time as you are not contagious. I will be happy to facilitate remote participation in these instances. In the event that any member of the class (myself included) contracts COVID, I reserve the right to move the entire class online.

Note that $\geq 0$ class sessions will be recorded via both voice and video recording. By attending and remaining in this class, the student consents to being recorded. Recorded class sessions are for instructional use only and may not be shared with anyone who is not enrolled in the class.

### 4.5 Modifications to the Syllabus

The instructor reserves the right to modify any of the policies in the syllabus at any time, particularly as dictated by the interests of learning and fairness. Students will not be graded any harsher than as outlined in Section 3.2.

### 4.6 Student Feedback

Student feedback regarding this course is welcome at any time. Those who wish to leave feedback anonymously are welcome to do so using the Google form on the course homepage. Students are also welcome to reach out to the instructor via email or in office hours to discuss their concerns.

## 5 Required Syllabus Statements

### 5.1 Religious Holidays

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, please contact the instructor within the first two weeks to discuss any conflicts with religious events. Short-term accommodations (e.g., a 24-48 hour extension on an assignment) can be requested in the normal course via the Extension Form. If you require more extensive accommodations, then you **must** discuss with the instructor within the first two weeks of class.

### 5.2 Students with Disabilities

The Center for Disability Services/SNAP is committed to assisting qualified students with disabilities achieve their academic goals by providing reasonable academic accommodations under appropriate circumstances. If you have a disability and anticipate the need for an accommodation in order to participate in this class, please connect with the Center for Disability Services/SNAP. They will assist you in getting the resources you may need to participate fully in this class. You can contact the Center for Disability Services/SNAP office at 843.953.1431 or at snap@cofc.edu. You can find additional information and request academic accommodations at the Center for Disability Services/SNAP website.

If you are not registered with SNAP and believe you may need a disability accommodation, please do not hesitate to contact me.

### 5.3 Inclement Weather, Pandemic or Substantial Interruption of Instruction

In the event of inclement weather, I will communicate a detailed plan for how class will proceed (if at all). Please prioritize your safety in these situations, including any need to evacuate. If there is a need to evacuate, I will also be prioritizing my own evacuation. The university has allocated make-up days on the weekends to be used if class is canceled for inclement weather. I will communicate in a timely manner for if/how these days will be used.

In the event of a surge in the ongoing COVID pandemic, I reserve the right to make adjustments to the structure of the class. In particular, if there exists at least one member of the class with COVID, I reserve the right to move the course online.

### 5.4 OAKS

OAKS will be used this semester to provide the syllabus, assignments, and such. I reserve the right to use the OAKS gradebook.

### 5.5 Digital Accessibility Statement

The instructor will make a good-faith effort to provide digitally accessible materials. Students who have concerns or additional needs should discuss with the instructor.