



CSE/2321

Foundations 1

Spring 2022

COURSE OVERVIEW

Instructor

Instructor: Tim Carpenter

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Piazza signup: piazza.com/osu/spring2022/34445

Office hours: Will be posted on piazza

Course description

Propositional and first-order logic, sets, functions, graphs and trees, analysis of algorithms, asymptotic analysis, combinatorics, graph algorithms, and additional topics.

Prerequisites and Co-requisites

(CSE 1232 or CSE 1233 or CSE 2221 or CSE 214 or CSE 230 or CSE 222) and (Math 1151 or Math 1156 or Math 1161 or Math 152 or Math 162); co-req for those entering with CSE 2221: CSE 2231

Course learning outcomes

By the end of this course, students should:

- Be competent with using propositional logic
- Be familiar with first-order predicate logic
- Be familiar with proving by contradiction, by ordinary induction and by strong induction
- Be familiar with using asymptotic notation
- Be familiar with analyzing running time of simple iterative algorithms
- Be familiar with graph theory
- Be exposed to analyzing running time of recursive algorithms

- Be exposed to sorting and searching
- Be exposed to designing graph algorithms

HOW THIS COURSE WORKS

Mode of delivery: This course is in person. Lectures will be held at the times and location posted on buckeyelink. Recordings of lecture will be made available to help accommodate students who need to miss class.

Credit hours and work expectations: This is a **3-credit-hour course**. According to [Ohio State policy](#), students should expect around 3 hours per week of time spent on direct instruction (instructor content and Carmen activities, for example) in addition to 6 hours of homework (reading and assignment preparation, for example) to receive a grade of (C) average.

Attendance and Participation: I will take attendance each day. Everyone can miss up to 2 days without penalty. You can miss more time without penalty if you are able to provide documentation to support your need to miss class. You are expected to actively participate in lectures, for example making honest attempts to answer questions, participate in exercises, and solving example problems.

COURSE MATERIALS AND TECHNOLOGIES

Textbooks

REQUIRED

- Introduction to Algorithms , 3rd edition, by Cormen, Leiserson, Rivest, and Stein, The MIT Press. This textbook will be used for both the Foundations I and Foundations II courses. There is an eBook available in the OSU library by accessing; see <http://library.ohio-state.edu/record=b6916144~S7>. It is a single-use access which means that only one student can use it at a time.

RECOMMENDED/OPTIONAL

- Additional references/readings may be posted on Carmen under Files during the semester.

Course technology

For help with your password, university email, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at <https://ocio.osu.edu/help/hours>, and support for urgent issues is available 24/7.

- **Self-Service and Chat support:** <http://ocio.osu.edu/selfservice>
- **Phone:** 614-688-HELP (4357)
- **Email:** 8help@osu.edu
- **TDD:** 614-688-8743

BASELINE TECHNICAL SKILLS FOR ONLINE COURSES

- Basic computer and web-browsing skills
- Navigating Carmen: for questions about specific functionality, see the [Canvas Student Guide](#).

REQUIRED EQUIPMENT

- Computer: current Linux, Mac (OS X), or PC (Windows 7+) system with high-speed internet connection.
- Other: a mobile device (smartphone or tablet) or landline to use for BuckeyePass authentication
- Webcam: built-in or external webcam, fully installed and tested
- Microphone: built-in laptop or tablet mic or external microphone

REQUIRED SOFTWARE

- [Microsoft Office 365](#): All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Full instructions for downloading and installation can be found [at go.osu.edu/office365help](http://go.osu.edu/office365help).
- [Zoom](#): It is recommended that you download the desktop client, as it is more fully features and allows screen sharing. Full instructions for downloading and installation can be found at <https://resourcecenter.odee.osu.edu/carmenzoom/getting-started-carmenzoom>

CARMEN ACCESS

You will need to use [BuckeyePass](#) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you take the following steps:

- Register multiple devices in case something happens to your primary device. Visit the [BuckeyePass - Adding a Device](#) help article for step-by-step instructions.
- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click “Enter a Passcode” and then click the “Text me new codes” button that appears. This will text you ten passcodes good for 365 days that can each be used once.
- Download the [Duo Mobile application](#) to all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service.

If none of these options will meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357 (HELP) and the IT support staff will work out a solution with you.

GRADING AND FACULTY RESPONSE

How your grade is calculated

ASSIGNMENT CATEGORY	POINTS
Homework	40%
Attendance and Participation	10%
Midterm 1	15%
Midterm 2	15%
Final Exam	20%
Total	100%

See course schedule below for due dates.

Late assignments

Late submissions will not be accepted. Please refer to Carmen for due dates.

Grading scale

93–100: A
 90–92.9: A-
 87–89.9: B+

83–86.9: B
80–82.9: B-
77–79.9: C+
73–76.9: C
70 –72.9: C-
67 –69.9: D+
60 –66.9: D
Below 60: E

Faculty feedback and response time

I am providing the following list to give you an idea of my intended availability throughout the course. (Remember that you can call **614-688-HELP** at any time if you have a technical problem.)

- **Grading and feedback:** For large weekly assignments, you can generally expect feedback within **7 days**.
- **Email:** I will reply to emails within **24 hours on days when class is in session at the university**.
- **Piazza board:** I will check and reply to messages in on the Piazza discussion board every **24 hours on days when class is in session at the university**.

OTHER COURSE POLICIES

Discussion and communication guidelines

The following are my expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- **Writing style:** While there is no need to participate in class discussions as if you were writing a research paper, you should remember to write using good grammar, spelling, and punctuation. A more conversational tone is fine for non-academic topics.
- **Tone and civility:** Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Remember that sarcasm doesn't always come across online.
- **Citing your sources:** When we have academic discussions, please cite your sources to back up what you say. (For the textbook or other course materials, list at least the title and page numbers. For online sources, include a link.)

- **Backing up your work:** Consider composing your academic posts in a word processor, where you can save your work, and then copying into the Carmen discussion.

Academic integrity policy

POLICIES FOR THIS ONLINE COURSE

- **Exams:** You must complete the midterm and final exams yourself, without any external help or communication.
- **Homework:** Homework assignments are required to be done individually. While study groups and discussion of assignments is encouraged, remember that copying homework is not permitted. The work you submit must be your own.
- **Reusing past work:** In general, you are prohibited in university courses from turning in work from a past class to your current class, even if you modify it. If you want to build on past research or revisit a topic you've explored in previous courses, please discuss the situation with me.

OHIO STATE'S ACADEMIC INTEGRITY POLICY

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's *Code of Student Conduct*, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's *Code of Student Conduct* and this syllabus may constitute "Academic Misconduct."

The Ohio State University's *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the University, or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's *Code of Student Conduct* is never considered an excuse for academic misconduct, so I recommend that you review the *Code of Student Conduct* and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's *Code of Student Conduct* (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- The Committee on Academic Misconduct web pages ([COAM Home](#))
- *Ten Suggestions for Preserving Academic Integrity* ([Ten Suggestions](#))
- *Eight Cardinal Rules of Academic Integrity* (www.northwestern.edu/uacc/8cards.htm)

Copyright disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Statement on Title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu

Your mental health

A recent American College Health Survey found stress, sleep problems, anxiety, depression, interpersonal concerns, death of a significant other, and alcohol use among the top ten health impediments to academic performance. Students experiencing personal problems or situational crises during the quarter are encouraged to contact Ohio State University Counseling and Consultation Service (614-292-5766; www.ccs.osu.edu) for assistance, support and advocacy. This service is free and confidential.

ACCESSIBILITY ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

Requesting accommodations

If you would like to request academic accommodations based on the impact of a disability qualified under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, contact your instructor privately as soon as possible to discuss your specific needs. Discussions are confidential.

In addition to contacting the instructor, please contact the Student Life Disability Services at [614-292-3307](tel:614-292-3307) or ods@osu.edu to register for services and/or to coordinate any accommodations you might need in your courses at The Ohio State University.

Go to <http://ods.osu.edu> for more information.

Accessibility of course technology

This online course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.

- [Carmen \(Canvas\) accessibility](#)
- Streaming audio and video
- Synchronous course tools

Week	Topics	Due