THE OHIO STATE UNIVERSITY

SYLLABUS: ACCAD 5102
PROGRAMMING CONCEPTS AND APPLICATIONS FOR ARTISTS AND DESIGNERS
SPRING, 2026

Course overview

Instructor

Instructor: Sebastian King

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Office hours: by appointment (Zoom or Sullivant Hall 339C)

Course description

Fundamental programming concepts useful to artists and designers for creating algorithmic - based graphics and graphics tools.

Using computer programs is an inherent part of being a digital artist or designer. The programs we use are largely defined by programmers' understanding of artists' and designers' needs. Misconceptions about needs often result in programs that fail to properly address these requirements. There are two ways in which artists' needs may be better met: either programmers can learn more about art, or the artists can learn more about computer programming. The purpose of this course is to attempt to fulfill the second method. If artists know more about computer programming, they are better able to explain their needs to programmers. In addition, artists can use their programming skills to write their own programs.

Some examples of practical techniques that would be useful for artists and designers to be able to implement include parametric, iterative, or recursive design, hierarchical control, maintaining persistent state information, pattern matching, command generation, object-oriented design, data re-usability, data filtering and visualization, file and process management, template-based data generation, batch processing, and algorithmic drawing and animation.

The main objective of this course is to teach beginning to intermediate concepts of computer programming. The course will emphasize the application of programming methods that will

best serve the artist. Each student will be expected to master fundamental, theoretical concepts in programming, thus allowing them to use software dependent upon those concepts more effectively and efficiently.

Course learning outcomes

By the end of this course, students should successfully be able to:

- Apply basic programming concepts
- Program animated visual applications
- Implement common interaction techniques
- Create simple data visualizations
- Methodically locate problems when coding
- Teach themselves additional programming languages

Course format

This course is intended to be a synchronous classroom learning experience.

The course will attempt to survey important issues surrounding the creation of scripts and programs for use in digital art and design. Images, animation, and interaction produced by various algorithmic approaches will be shown whenever possible, but students will learn primarily by creating and using their own code. The class format will take on a variety of styles as the disparate subjects dictate. Examples will be presented in lectures and demonstrations. Students will present their software in critique sessions.

Students will be introduced to an evolving set of programming techniques and concepts through design exercises and labs. The course will survey recent advances in programming interfaces and representations. Students will be shown existing work primarily from interactive computer designers and artists. Examples of varying levels of complexity will be presented to demonstrate different techniques. Students will be required to use the techniques and examples presented to design their own software. Previous basic experience working with digital files, images, and video will be assumed.

The assignments will be flexible enough to allow students from different disciplines to create projects appropriate for their disparate fields and goals (e.g. architecture, art, CS, design, etc.) Collaboration will be welcomed in later assignments.

Students must demonstrate satisfactory achievement of course objectives through fulfillment of course projects and by contributing to class discussions and critiques. Collaboration between students in the course and other faculty, staff and students at ACCAD is encouraged.

The course is structured as five separate projects lasting two to three weeks. All class notes and links are posted each session through Carmen. Carmen discussions are used for posting work, weekly writing, and students giving each other feedback. Project assignment documentation will be submitted in Carmen. Assignment grading and feedback will be provided through Carmen.

Course materials

Required Supplemental Materials

There are no required textbooks, specific software, or specific hardware. Software documentation, tutorials, and examples are provided with software installation or are available for download or online. Links to blogs, web sites, etc. are updated through the semester via Carmen, reflecting emerging technologies.

Communication Tools

Optional video conferencing with your instructor requires the use of a video call using Zoom. Therefore, it is required that you install the Zoom application. Be sure to log in with the SSO (osu.zoom.us). You will also need a microphone for voice connection. Video connection is optional, but highly recommended to ensure optimized communication.

Documentation Tools

You are not required to print anything for this course. All of your work will be uploaded as a digital file. In some cases, images may be included in your work, and you will be required to upload them to Carmen. I will be happy to guide you through this process (as well as file size management) if you require help.

Optional Materials

N/A

Course technology

For help with your password, university e-mail, Canvas, 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 24x7.

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

Grading and faculty response

Grades

Assignment or category	Points
1. **Drawing with Code:** getting familiar with the programming tools and workflow, basic drawing functions, variables, math, logic and conditional statements.	15
2. **Parametric Patterns:** using functions, arguments, and iteration to generate visual patterns controlled by numbers.	15
3. **Interactive Data Visualization:** loading, representing, remapping, and visualizing data.	20
4. **OOP and Simulation:** representing and visualizing classes of interacting entities.	20
5. **Final Project:** explore, extend, and/or integrate one or more of the previous concepts or projects.	20
Class participation	10

See the assignment pages online in Carmen for due dates and detailed requirements.

Late assignments

Finished work received after the due date and time of an assignment will be accepted, but you must speak with your instructor to negotiate a modified deadline in order for late work to receive credit. Communication requesting a modified deadline must take place within 24 hours of the original deadline. Any work received after the modified deadline will not receive credit. 10% per day will be subtracted from late assignments.

Grading scale and translation of marks

93–100%: A   Work is exceptional quality; ideas are articulated in specific, vivid and thorough ways

90–92.9%: A-   Work is very high quality; ideas are well considered and explained clearly

87–89.9%: B+   Work is high quality, reflecting higher than average ability

83–86.9%: B   Work is very good and satisfies the goals of the assignment

80–82.9%: B-   Work is slightly above average and goes slightly beyond basic expectations

77–79.9%: C+   Work is average, reflecting an understanding of course material and demonstrating an effort to apply it

73–76.9%: C   Work is passable but only adequate in its ability to meet basic expectations

70 –72.9%: C- Work is below good academic performance standards; underdeveloped or containing inaccuracies

67 –69.9%: D+ Work is below average; demonstrates minimal effort

60 –66.9%: D   Work is well below average; incomplete or inaccurate

Below 60%: E   Work receives no credit; unsuccessful completion, objectives of the assignment are not met at all or are met in a significantly limited way

Grade Forgiveness

The Grade Forgiveness Rule allows undergraduate students to petition to repeat up to three courses. The grade in the repeated course will permanently replace the original grade for the course in the calculation of the student's cumulative GPA.

Please note that only the first repeat of a course will replace a grade; all other repeats of the same course will be included under the general course repeatability rule. The original grade will remain on the student's transcript and some graduate/professional school admissions processes will re-calculate the student's GPA to include the original grade. See: https://advising.osu.edu/grade-forgiveness-0 for more information.

Faculty feedback and response time

I am here to help and I encourage you to communicate with me. The following list to give you an idea of my intended availability throughout the course and to encourage proactive communication. (Remember that you can call **614-688-HELP** at any time if you have a technical computer-related problem.)

Grading and feedback

For assignments, you can generally expect feedback within **7-10 days**.

E-mail

I will make every effort to reply to e-mails within **24 hours on weekdays**. Please note that e-mail sent between 5 pm and 8 am are not likely to be answered until the following day.

Carmen

Email through Carmen's inbox function or through your Buckeyemail will be the only source of private and secure conversations. General information, personal matters, assignment or class-

related inquiries or other similar topics should be addressed using these two sources. All university correspondence is sent to your BuckeyeMail email address, and all email sent to faculty and staff should be sent from your BuckeyeMail email address.

Ohio State will never ask you for your Ohio State username or password. Do not reply to any email asking for your Ohio State username, password, or other personal information. Report such messages to report-phish@osu.edu.

Zoom

The Zoom video call application is used for virtual class meetings. I understand that some students may have technical issues or poor internet connections. I will keep this in mind when interacting with you on Zoom. You can contact ODEE or visit the Zoom Resource Center for technical difficulties that are related to the application itself.
https://resourcecenter.odee.osu.edu/carmenzoom

There are protocols for professional use of Zoom that you should always keep in mind. You are expected to maintain professional behavior and appearance while in an active Zoom meeting. Using how you might look and behave in a face-to-face engagement/physical class meeting provides a good guideline to follow.

My office hours will be conducted either in my office or using the Zoom app. Please contact me for an appointment time.

Attendance and participation

Student participation requirements

This is a synchronous course, meaning that you will be expected to attend the course on the scheduled days at the scheduled times. In between class meetings, please review and study your instructor's announcements and posted presentations, as well as a variety of readings, videos, web sites, etc.

To complete the course successfully students should expect to participate in discussions online and in class. Like most art and design classes, this course requires significant initiative from students, allowing for personal research, art, and design interests and goals to be integrated into projects. With the freedom to guide one's own learning comes substantial obligation to design projects and processes.

The class participation grade will take into consideration student contributions during topic discussions and critiques, engaged questions and responses during class time or office hours, and via email and Carmen.

Attendance policy:

Attendance, productive class activity and meeting in-progress deadlines are factors in the assessment of your assignments. Students are expected to be present and active for the entire synchronous class period. Attendance may be taken at any point in the course meeting therefore, you may be counted as absent if you are not present when attendance is taken. Three late entries / early departures = one absence. Tardiness, missing class, and poor preparation can, therefore, impact your project/course grades in a detrimental manner.

Illness, family obligations, and other conflicts with your classes do occur from time to time and up to three absences are allowed for any reason during the semester without penalty. In the instance that you miss three class meetings, you are required to meet with your instructor to discuss strategies for avoiding additional absences. Missing class more than 20% of the semester (six class meetings for a course that meets twice a week or three class meetings for courses that meet once per week) may result in an E grade for the course.

Communication guidelines

The following are our expectations for how all of us should communicate as a class: in classroom discussions; in written communication; and in what you write as part of assignments and examinations. Above all, please remember to be respectful and thoughtful.

- **Writing style**: Any written submissions should follow the standard English guidelines for using proper grammar, spelling, and punctuation. Informality (including an occasional emoticon) is fine for non-academic topics.
- **Tone and civility**: In verbal exchanges and in writing, 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**: In any form of academic submission, please cite your sources to back up what you say. (When using course materials that originally took a printed form, list at least the title and page numbers. For online sources, include a link.)
- **Backing up your work**: Consider composing anything you submit for this course using a word processor where you can save your work, and then copying into the Carmen drop box for submission.

Other course policies

Academic Misconduct

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.

Artificial Intelligence and Academic Integrity

There has been a significant increase in the popularity and availability of a variety of generative artificial intelligence (AI) tools, including ChatGPT, Sudowrite and others. These tools will help shape the future of work, research and technology but when used in the wrong way, they can stand in conflict with academic integrity at Ohio State.

All students have important obligations under the Code of Student Conduct to complete all academic and scholarly activities with fairness and honesty. Our professional students also have the responsibility to uphold the professional and ethical standards found in their respective academic honor codes. Specifically, students are not to use unauthorized assistance in the laboratory, on field work, in scholarship or on a course assignment unless such assistance has been authorized specifically by the course instructor. In addition, students are not to submit their work without acknowledging any word-for-word use and/or paraphrasing of writing, ideas or other work that is not your own. These requirements apply to all students undergraduate, graduate, and professional.

To maintain a culture of integrity and respect, these generative AI tools should not be used in the completion of course assignments unless an instructor for a given course specifically authorizes their use. Some instructors may approve of using generative AI tools in the academic setting for specific goals. However, these tools should be used only with the explicit and clear permission of each individual instructor, and then only in the ways allowed by the instructor.

RESOURCES FROM THE DRAKE INSTITUTE FOR TEACHING AND LEARNING
RESOURCES FROM THE TEACHING AND LEARNING RESOURCE CENTER
COMMITTEE ON ACADEMIC MISCONDUCT (COAM)

Counseling and Consultation Services / Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing.

If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th floor of the Younkin Success Center and 10th floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at 614-292-5766 and 24-hour emergency help is also available through the 24/7 by dialing 988 to reach the Suicide and Crisis Lifeline.

Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity:

Online reporting form at equity.osu.edu,

Call 614-247-5838 or TTY 614-688-8605,

Or Email equity@osu.edu

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Office of Institutional Equity to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.
- The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

Disability Statement (with Accommodations for Illness)

The university strives to maintain a healthy and accessible environment to support student learning in and out of the classroom. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion.

If you are ill and need to miss class, including if you are staying home and away from others while experiencing symptoms of viral infection or fever, please let me know immediately. In cases where illness interacts with an underlying medical condition, please consult with Student Life Disability Services to request reasonable accommodations. You can connect with them at slds@osu.edu; 614-292-3307; or slds.osu.edu.

Diversity Statement

The Ohio State University affirms the importance and value of diversity of people and ideas. We believe in creating equitable research opportunities for all students and to providing programs and curricula that allow our students to understand critical societal challenges from diverse perspectives and aspire to use research to promote sustainable solutions for all. We are committed to maintaining an inclusive community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among all members; and encourages each individual to strive to reach their own potential. The Ohio State University does not discriminate on the basis of age, ancestry, color, disability, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, race, religion, sex, gender, sexual orientation, pregnancy, protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment.

To learn more about diversity, equity, and inclusion and for opportunities to get involved, please visit:

https://odi.osu.edu

https://cbsc.osu.edu

Grievances and Solving Problems

A student who encounters a problem related to his/her educational program has a variety of avenues available to seek resolution. (Note: the procedures for grade grievances are explicitly covered in the faculty rules) Typically, a student is advised to resolve any dispute, disagreement, or grievance as directly as possible, engaging with the person or persons most closely involved. The faculty and staff of the departments and colleges are available to work with students in this regard. If this step does not produce acceptable results, the student should follow a logical stepwise progression to address the academic concerns.

According to University Policies, if you have a problem with this class, you should seek to resolve the grievance concerning a grade or academic practice by speaking first with the instructor or professor. Then, if necessary, take your case to the department chairperson, college dean or associate dean, and to the provost, in that order. Specific procedures are outlined in Faculty Rule 3335-8-23. Grievances against graduate, research, and teaching assistants should be submitted first to the supervising instructor, then to the chairperson of the assistant's department.

Lyft Ride Smart

Lyft Ride at Ohio State offers eligible students discounted rides, inside the university-designated service area (opens in new window) and has expanded service to the Short North area along High Street. Service runs from 7 p.m. to 7 a.m. Prices may be impacted by distance, traffic, time of day, special events and prime time surcharges. More information about the service and the

Lyft App, and a link to get started using the Lyft Ride Smart services can be found at: https://ttm.osu.edu/ride-smart.

Religious Accommodations

Ohio State has had a longstanding practice of making reasonable academic accommodations for students' religious beliefs and practices in accordance with applicable law. In 2023, Ohio State updated its practice to align with new state legislation. Under this new provision, students must be in early communication with their instructors regarding any known accommodation requests for religious beliefs and practices, providing notice of specific dates for which they request alternative accommodations within 14 days after the first instructional day of the course. Instructors in turn shall not question the sincerity of a student's religious or spiritual belief system in reviewing such requests and shall keep requests for accommodations confidential.

With sufficient notice, instructors will provide students with reasonable alternative accommodations with regard to examinations and other academic requirements with respect to students' sincerely held religious beliefs and practices by allowing up to three absences each semester for the student to attend or participate in religious activities. Examples of religious accommodations can include, but are not limited to, rescheduling an exam, altering the time of a student's presentation, allowing make-up assignments to substitute for missed class work, or flexibility in due dates or research responsibilities. If concerns arise about a requested accommodation, instructors are to consult their tenure initiating unit head for assistance.

A student's request for time off shall be provided if the student's sincerely held religious belief or practice severely affects the student's ability to take an exam or meet an academic requirement and the student has notified their instructor, in writing during the first 14 days after the course begins, of the date of each absence. Although students are required to provide notice within the first 14 days after a course begins, instructors are strongly encouraged to work with the student to provide a reasonable accommodation if a request is made outside the notice period. A student may not be penalized for an absence approved under this policy.

If students have questions or disputes related to academic accommodations, they should contact their course instructor, and then their department or college office. For questions or to report discrimination or harassment based on religion, individuals should contact the Office of Institutional Equity.

Policy: Religious Holidays, Holy Days and Observances

Weather/Short-Term Closing

Although Ohio State strives to remain open to ensure continuity of services to students and the public, extreme conditions can warrant the usage of the university's Weather or Other Short-Term Closing Policy. Please visit this webpage to learn more about preparing for potential closings and planning ahead for winter weather.

Course Schedule

WEEK	MODULE	TOPIC	DUE DATES/DEADLINES
1	1	Overview, introductions, tools, drawing, variables, conditionals	
2	2	Reading, web, debugging Project 1 presentations	Project 1 due
3	3	Functions, arguments, loops, nesting	
4	4	Loops, recursion Project 2 work	
5	5	Project 2 presentations Interaction, events, remapping	Project 2 due
6	6	Arrays, remapping File I/O	
7	7	Project 3 work Project 3 work	
8	8	Project 3 presentations Object oriented programming	Project 3 due
9	9	Simulation Image representation	
10	10	Spring break Spring break	
11	11	Libraries Project 4 work	
12	12	Project 4 work Project 4 presentations	Project 4 due
13	13	APIs DOM, instantiation	
14	14	Languages Project 5 work	
15	15	Project 5 work Project 5 presentations	Project 5 due