

Syllabus Language: COVID-19

Student Well-being:

If you are struggling for any reason (COVID, relationship, family, or life's stresses) and believe these may impact your performance in the course, I encourage you to contact the Dean of Students at (208) 426-1527 or email deanofstudents@boisestate.edu for support. Additionally, if you are comfortable doing so, please reach out to me and I will provide any resources or accommodations that I can. If you notice a significant change in your mood, sleep, feelings of hopelessness or a lack of self worth, consider connecting immediately with Counseling Services (1529 Belmont Street, Norco Building) at (208) 426-1459 or email healthservices@boisestate.edu.

COVID 19 Syllabus Notice

Many Boise State classes have resumed face-to-face meetings in the midst of a global pandemic and a recent local surge of infections. Our goal is to have a successful academic year while keeping our students, faculty, and local community healthy and safe. Public health requirements are in place to achieve that goal, the primary mechanism for which includes the mandatory use of facial coverings that protect all of us.

We have taken health precautions on campus so that you can have the option of a face-to-face course. However, there is still inherent risk associated with face-to-face courses during a pandemic because of proximity to others and length of potential exposure to the virus. Therefore, as members of this learning community, it is imperative that we all engage in behaviors that protect the overall public health.

You have enrolled in a face-to-face course, and this format offers a number of benefits that appeal to many students. In order to preserve your access to this face-to-face option you are required to

- 1) sit in the same seat all semester (for purposes of contact tracing) and
- 2) wear facial coverings in all face-to-face learning environments. You must keep your mouth and nose covered at all times throughout class — facial coverings cannot be pulled up or down. **As a health precaution, eating and drinking are NOT permitted in the classroom.**

By enrolling in an in-person course, you agree to comply with Boise State's rules and precautions which include, but are not limited to, facial coverings, frequent hand washing, hand sanitizing, and sitting in the same seat all semester.¹ Failing to comply with these rules and precautions is a

¹ For details, see [Health Guidelines](#)

violation of Boise State's [Student Code of Conduct](#) and will subject you to university sanctions and discipline.

University policy states that I am not allowed to begin/continue with instruction unless and until everyone present has a facial covering in place.

This course is designed to be accessible to all students. A very small percentage of people cannot wear facial coverings for reasons related to medical conditions or disabilities. If this is your experience, please contact the [Educational Access Center](#) to document your condition so that we may determine the best accommodation for you. Until an accommodation is in place, you will need to participate remotely. If you need to read lips or facial expressions to understand what people are saying, please let the [Educational Access Center](#) and me know via email.

If you are unwilling to wear a facial covering, you cannot participate in person. If this is the case, please dismiss yourself and either inquire whether you may participate in the class fully remotely, or contact the [Registrar's Office](#) (208-426-4249) to pursue your learning experience in a different remote or online section. Should you refuse to cover your mouth and nose and also refuse to leave the classroom, I have been directed to dismiss the class and you will be reported to and contacted by the Dean of Students Office.

Mutual Guidelines for Safe Learning Environments

While these public health measures are essential to protecting our individual and communal health, they also complicate how we engage in teaching and learning. The following guidelines should ease our comfort and communication with one another:

- In the classroom, we must wear a facial covering that covers our mouth and nose at all times. If you or I let our facial coverings slip, we will politely remind one another to secure our masks.
- Facial coverings muffle voices. I will use the classroom microphone to amplify my voice through my mask. In addition, I will repeat your questions and summarize comments to ensure we all can follow any discussion.

Fall 2021 CS 464 Introduction To Computer Graphics

3 credit hours

MoWe 12:00AM - 01:15pm

Room: CCP 221/Hybrid

Instructor: Steve Cutchin, email: steven.cutchin@boisestate.edu

Office Hours: Zoom, e-mail for appointment.

Textbooks: Introduction to Computer Graphics by David J. Eck <http://math.hws.edu/graphicsbook>
Additional excellent books are:

- Interactive Computer Graphics A Top-Down Approach with WebGL 7th Edition by Edward Angel and Dave Shreiner 2015
- WebGL Programming Guide: Interactive 3D Graphics Programming with WebGL (OpenGL) - Optional but useful

Prerequisites: CS 321 or Permission of Instructor. Knowledge of basic data structures like lists, hash tables, binary search trees. Knowledge of Java or Javascript is required.

Course Catalog Description: Mathematics and programming techniques for computer graphics that cover raster graphics, transformations, rendering pipeline, clipping algorithms, lighting models, shading and shadows, texture mapping, antialiasing, ray tracing, non-photorealistic graphics. MATH 275 or MATH 301 recommended. PREREQ: CS 321.

Course Objectives:

- Introduce students to the fundamental mathematics used in computer graphics algorithms.
- Learn fundamental graphics algorithms for rendering, transformations, viewing, clipping...
- Implement algorithms for viewing, interaction, lighting and shading as well as ray tracing
- Explore graphics hardware and familiarize yourself with shaders and their use.
- Discuss advanced graphics topics such as non-photorealistic rendering.

Course Outline: numbers are estimates

Topic	Lectures
Intro to WebGL, Javascript	3
Math	1
Scenes and Primitives	1
Pipeline/Shaders	2
Transformations	2
Viewing Transform	1
Lighting and Shading	2
Image Mapping	2
GPU Architecture	1
Framebuffers/Pixmap/Color	1
Raytracing	1
Aliasing	1
Exams and reviews	2

Grade Information:

5 Programs	50%
Tkkake Home Quizes	10%
Final Project	20%
Final exam	20%
Total	100%

Exams:

- The only exam in this class is the final exam. It is closed book and will be held over Zoom.
- There will be a collection of take home quizzes that will be excellent preparation for the Final Exam.

Grade Scale: You are guaranteed to receive at least the grade as follows:

A+	≥ 95%	A	≥ 91%	A-	≥ 88%
B+	≥ 85%	B	≥ 81%	B-	≥ 78%
C+	≥ 75%	C	≥ 71%	C-	≥ 68%
D+	≥ 65%	D	≥ 61%	F	< 60%

- I reserve the right to lower the cutoffs if I feel it is appropriate.
- Assignments lose 10% for each day submitted past the deadline. No exceptions.
- No assignments will be accepted beyond one week after due date.

Academic Honesty: The University’s goal is to foster an intellectual atmosphere that produces educated, literate people. Because cheating and plagiarism are at odds with that goal, those actions shall not be tolerated in any form. Academic dishonesty includes assisting a student to cheat, plagiarize, or commit any act of academic dishonesty. Plagiarism occurs when a person tries to represent another person’s work as his or her own or borrows directly from another person’s work without proper documentation.

If a student engages in academic dishonesty, the student may be dismissed from the class and may receive a failing grade. Other penalties may include suspension or expulsion from the University.

Much more information about academic integrity, including examples of academic dishonesty, is at:

<http://cs.boisestate.edu/~buff/files/www-integrity.pdf>

If you are unsure about a particular behavior, ask your instructor.

University Attendance Policy: <http://registrar.boisestate.edu/catalogs/gr-online/gr-general-policies.shtml#attandancel>: Students are expected to attend classes regularly. Missing one of two first classes may result in your automatic withdraw from the class.