

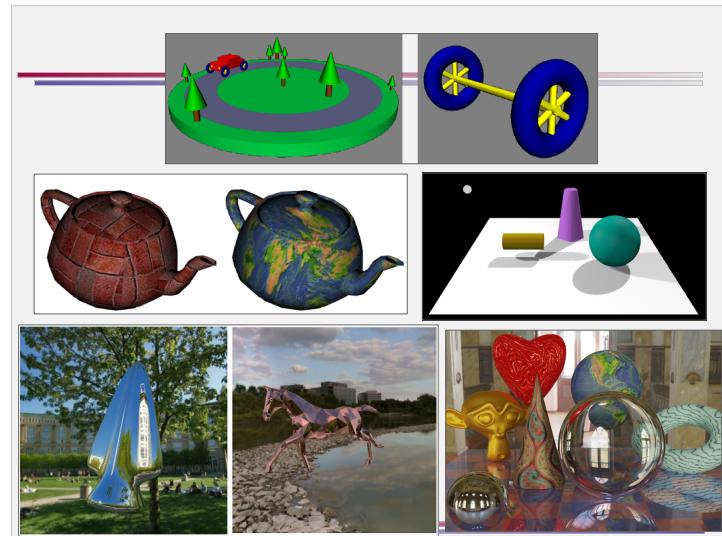
CPSC 424 Computer Graphics

Computer Graphics

- broadly speaking, *computer graphics* encompasses anything to do with creating or manipulating images on the computer

Course Content

- fundamentals of 3D computer graphics, focusing on real-time photorealistic graphics
- topics
 - building blocks – pixels, color, coordinate systems, transforms
 - the graphics pipeline
 - elements of 3D graphics
 - coordinates and transformations
 - viewing and projections
 - modeling – specifying geometry, hierarchical modeling, scene graphs
 - rendering – lighting and shading, materials, textures, bump and environment mapping, shadows
 - rendering strategies for greater photorealism
 - animation
 - modern tools and APIs
 - WebGL, three.js
 - Blender



Prerequisites

- comfortable with Java programming
 - you know when, why, and how to use –
 - core constructs: variables, conditionals, loops, subroutines, arrays
 - OOP: objects
 - you can leverage your knowledge of Java to pick up key elements of new languages (JavaScript, GLSL) with minimal direct instruction
- debugging skills
 - a methodical approach to tracking down problems
- initiative and a degree of self-sufficiency with respect to learning
 - you first attempt to figure things out on your own, and you have some idea how to start tracking down info for yourself
 - **you ask questions when needed**

Course Website

<http://math.hws.edu/bridgeman/courses/424/f25/>
(also linked from Canvas)

CPSC 424: Computer Graphics Fall 2025

Instructor	Stina Bridgeman bridgeman@hws.edu Lansing 302, x3614 class and office hours schedule	Office Hours	drop-in office hours: TBD — Lansing 302 office hours are also available by appointment if you cannot make the scheduled times
Class Hours and Meeting Place	lecture: MWF 10:50-11:50am — Demarest 124 lab: Tu 9:50-11:20am — Lansing 310 ** location to be confirmed		

Course Links

- [Schedule](#) (the course schedule, including links to assignments, readings, slides and examples from class, handouts, etc — pretty much everything you want on a daily basis is here)
- [Textbook](#) (Eck, *Introduction to Computer Graphics*)
- [Course Policies](#) (evaluation and expectations, attendance, late/makeup work, extensions, academic integrity and collaboration, use of AI, getting help, accommodations, etc — things you should read at the beginning of the semester, then refer back to as needed)
- [Course Information](#) (course description, time expectations, textbook information, required materials and software, etc — things you should look over at the beginning of the semester, but probably don't need too often after that)

Documentation and Reference Material

Classroom Change!

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Class Hours and Meeting Place	lecture: MWF 10:50-11:50am — Demarest 124 lab: Tu 9:50-11:20am — Lansing 310 ** location to be confirmed		

- lab will be in Lansing 310 instead of Gulick 101...most likely

Office Hours

CPSC 424: Computer Graphics Fall 2025

Instructor	Stina Bridgeman bridgeman@hws.edu Lansing 302, x3614 class and office hours schedule	Office Hours	drop-in office hours: TBD — Lansing 302 office hours are also available by appointment if you cannot make the scheduled times
Class Hours and Meeting Place	lecture: MWF 10:50-11:50am — Demarest 124 lab: Tu 9:50-11:20am — Lansing 310 ** location to be confirmed		

- office hours are drop-in – no appointment necessary
 - held in Lansing 302
 - there will be a scheduling survey later this week, and the schedule will be set starting next week
- email questions and/or make an appointment if you can't attend office hours

Schedule Page

check here for readings, assignments, handouts, examples from class, etc

CPSC 424 Schedule

Assignments in light gray are not yet assigned and are shown for planning purposes; it is possible that dates may shift slightly.

Assignments

Week 1: 9/1-9/5

Topics: introduction; fundamentals

Mon

Tue

Wed

Fri

lab

Week 2: 9/8-9/12

- expect a lab most weeks, plus a couple of additional skills labs
- two projects
- four in-class exams – dates are on the schedule

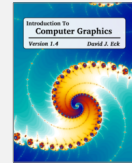
Course Policies

Found on the course web page, will be filled in shortly –

- communication expectations and classroom conduct
 - check your HWS email regularly
 - be on time, and take care of any necessary business before or after class so you don't need to wander in and out (including during lab)
- assignments, evaluation, and expectations
- attendance, making up work, and rescheduling exams
 - missing more than the occasional class often contributes to poor performance and will have a direct impact on your grade
- late work and extensions
 - there is a steady workload and much of the material is cumulative – avoid falling behind, and make up missed work promptly

Course Materials

- textbook is *Introduction to Computer Graphics* by David Eck, version 1.4
 - available for free online or PDF download
 - a printed copy can be purchased if desired



- all of the necessary software is available on the lab machines in Demarest 002 and Lansing 310, and via the Linux VDI
 - it is also possible to set up your own computer (optional)

Course Policies

Found on the course web page, will be filled in shortly –

- academic integrity and collaboration
 - what you hand in for a grade must be your work, your ideas, and your effort
- use of AI
 - certain uses of Copilot (part of Visual Studio Code) are allowed
 - code suggestions, explanations – OK
 - generating code from prompts – not OK
- being successful
 - course-specific resources, CTL, deans, mental health, accommodations