



Video Game Development

2026-2027

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Email	jpasimio@nwtech.k12.wa.us	Course Schedule	8:00 am - 10:30 am on MVSD school days
Location	Mount Vernon Campus, Room 210	Website	https://www.nwtech.k12.wa.us
CIP Code / Framework	110803, Video Game Design		

CTE DUAL CREDIT / ARTICULATION INFORMATION

This class is a CTE Dual Credit class. Students seeking to earn college credit must follow the CTE Dual Credit application and enrollment processes using this site for guidance: [Apply for Dual Credit](https://www.skagit.edu/academics/high-school-programs/cte-dual-credit/apply.html) (https://www.skagit.edu/academics/high-school-programs/cte-dual-credit/apply.html). Students must apply and enroll at SVC within the specified deadlines to earn dual credit (below). Students cannot obtain credit retroactively.

Earning dual credit is free and there is no cost for the student or family.

The following steps will be done in class with assistance from NCTA instructors:

YEARLONG COURSE CTE DUAL CREDIT TASKS & DEADLINES

On or before October 30, 2026	Apply to SVC via CTCLink
On or before January 7, 2027	Enroll in Dual Credit Class(es)

NCTA COURSE DESCRIPTION

This course focuses on the software, hardware, and mathematical tools used to represent, display, and manipulate topological, two-dimensional, and three-dimensional objects on a video screen. Students learn to function as computer graphics/video game development specialists. The course includes instruction in graphics software and systems; computer programming; digital multimedia; graphic design and video game design and development; graphics devices, processors, and standards; attributes and transformations; projections; surface identification and rendering; and color theory. Students will also learn concepts in algebra, geometry, and trigonometry as they are introduced to various mathematical concepts related to interactive computer and computer graphic-based applications.

SVC COURSE DESCRIPTION(S) & LEARNING OUTCOMES

The following are also introduced or assessed in this course:

College Course Title	Course Number	Credits
Intro To Computer Science	CS 110[Course number]	5

Course Description

Introduces fundamental concepts of computer science and computational thinking. Includes introduction to logical reasoning, procedural decomposition, conditionals, iteration, problem solving, and abstraction.

Course Learning Outcomes

Interpret code and determine its output.

Code, correct, test, and execute a program to match a provided specification.

Determine the correct logical construct to use to solve a problem.

Write maintainable code that matches a provided style guide.

Present and explain how a specific piece of code functions and the outcome it will produce (code walkthrough).

SVC COURSE DESCRIPTION(S) & LEARNING OUTCOMES

The following are also introduced or assessed in this course:

College Course Title	Course Number	Credits
Video Game Development I	MIT 105	8

Course Description

Through the creation of some classic 2D games (e.g. Pong, Breakout & Asteroids) students explore the basics of game development and coding. There is a strong focus on the fundamental building blocks of game development: the math, design principles and asset creation skills required to build a game.

Course Learning Outcomes

In mathematics: convert from decimal to binary, convert from degrees to radians & define movement in two dimensions as a vector.

In programming: create programs that utilize variable manipulation, text IO, branching and looping structures and randomization.

For game assets: source and create sound effects; describe, source, edit & create 2D graphics and create and render suitably textured and lit 3D models.

In game development: use a game engine to implement classic 2D games, describe games in terms of genre and identify specific jobs within the game industry.

SVC COURSE DESCRIPTION(S) & LEARNING OUTCOMES

The following are also introduced or assessed in this course:

College Course Title	Course Number	Credits
Video Game Development II	MIT 115	8

Course Description

Through the expansion of some classic 2D games (e.g. Breakout & Asteroids) students explore the development of game utilities (proofs-of-concept) that can be used as the building blocks for any type of game. There is a strong focus on the skills required to become an independent game developer: the vector math behind a game engine's collision detection routines, data structures for advanced coding and animation in both 2D & 3D environments.

Course Learning Outcomes

In mathematics: solve a variety of applied vector applications, use matrix mathematics to enact 2D transformations and calculate probabilities.

In programming: create, utilize and describe a variety of common data structures.

For game assets: design game characters and carry out animation in both 2D and 3D.

In game development: implement enemy movement AI, create a token interaction matrix, problem-solve known bugs in gameplay and implement game utilities (proofs-of-concept) in vector applications.

BOOKS, MATERIALS & COURSE RESOURCES

Resource / Material	Required?	Provided by	Notes / Link
Godot	Required	NCTA	https://godotengine.org/
Blender	Required	NCTA	https://www.blender.org/

BOOKS, MATERIALS & COURSE RESOURCES

Resource / Material	Required?	Provided by	Notes / Link
2D Art Program - Pixlr - PiskelApp - LibreSprite - Gimp	Required	NCTA	Students will be introduced to web based graphics editors. Students may choose which program to use depending on the project

Evaluation & Grading

NCTA courses use a grading system that measures technical skill development, employability habits, and academic learning. Grades are based on the work students complete, the skills they demonstrate, and the program's professional expectations.

Program Grading Categories

Occupational Education	Technical Math	Computer Graphics
Skills	Summative Assessment	Summative Assessment
Employability	Assignments	Assignments
Projects		

NCTA Course Grade Scale

A	93% or above	C	73-77.9%
A-	90-92.9%	C-	70-72.9%
B+	88-89.9%	D+	68-69.9%
B	83-87.9%	D	60-67.9%
B-	80-82.9%	NC	59.9% and below
C+	78-79.9%		

CTE Dual Credit Minimum Grade & GPA Conversion

Students must earn a B or higher to earn CTE Dual Credit. The partner-college templates lists this as the most common grading scale and percentage-to-GPA conversion:

Letter Grade	% of Points	GPA
A	94-100	4.0
A-	90-93	3.7
B+	87-89	3.3
B	83-86	3.0
B-	80-82	2.7
C+	77-79	2.3
C	73-76	2.0
C-	70-72	1.7
D+	67-69	1.3
D	65-66	1.0
F	0-64	0.0

MAJOR UNITS, ASSIGNMENTS & ASSESSMENTS

Unit	Assessment	Leadership	Other Information
Data Types and Variables	Concept Assessment Cumulative Project		
Control Flow	Concept Assessment Cumulative Project		
Lists	Concept Assessment Cumulative Project		
Loops	Concept Assessment Cumulative Project		
Functions	Concept Assessment Cumulative Project		
Classes	Concept Assessment Cumulative Project		
Solo Project	Cumulative Project		
Collaborative Project	Cumulative Project		
Capstone Project	Cumulative Project	Community presentation. Statewide competition.	
Community Project/Internship	Cumulative Project		Year 2 Only
Game Design Theory	Written Assessment		Year 2 Only
Certification - YouScience Game Design Fundamentals - YouScience Computer Programming I - YouScience Computer Programming II: Python	Official Proctored Exam for certification	Industry Recognized Certificate	

ATTENDANCE & PROFESSIONAL EXPECTATIONS

Attendance Policy

The Northwest Career & Technical Academy (NCTA) views attendance much like business and industry: students are considered professionals-in-training and are expected to attend each day fully to maximize learning and productivity. While occasional absences are inevitable, please prioritize regular attendance. Please see the student handbook. If a problem arises with health, food, transportation, housing, or any other barrier, please contact the school or district so that support can be provided.

Professional Expectations (Behavioral)

Students are expected to follow applicable laws and the behavior expectations of the school district, NCTA, and the specific program. NCTA students are professionals-in-training and are expected to demonstrate habits that prepare them for success in school and industry.

Communicative	Stay in touch, ask for help, and use professional language.
Motivated	Put in your best effort, participate, and meet deadlines.
Reliable	Attend regularly, be on time, and engage in all class activities.

Responsible	Keep spaces tidy, stay focused, and dress appropriately for the program.
Team Member	Work well with others, show a positive attitude, and follow procedures.
Trustworthy	Care for equipment, use technology appropriately, and act with integrity.
Feedback / Coachable	Receive feedback professionally and use it to improve performance.

Late Work Policy

Students may submit late work until the instructor's final deadline. Work submitted by that date will be graded for credit based on the assignment's quality and the program's standards. After the final deadline, assignments will not be accepted unless the instructor has approved an extension due to documented circumstances. Instructors will clearly communicate deadlines, including the final submission date. Students are responsible for checking timelines, staying on track, and reaching out for help when needed.

Industry/Course Specific Items

Technology / Device Expectations	<i>Students are expected to be safe and responsible with devices in the classroom. This includes both the physical care and upkeep of each device, as well as responsible content viewing within the classroom and on the school network. Students are informed that all activity on school devices and on the school network is monitored at all times</i>
Communication / Office Hours / Help	<i>Assistance is available 30 minutes before or after each class or by appointment.</i>

ACADEMIC INTEGRITY & GENERATIVE AI

Students are expected to submit only their own work and avoid cheating, plagiarism, fabrication, or other academic dishonesty. This includes submitting answers that are not your own on quizzes or exams, using unauthorized devices or materials, unauthorized communication during testing, or helping another person engage in academic dishonesty. Accidental or intentional use of another person's work, ideas, research, or writing without attribution may result in a failing grade on the assignment or, depending on the nature and extent of the violation, a failing grade in the course.

Generative AI tools (for example, ChatGPT, DALL-E, Gemini, or Claude) may be used to generate ideas and organize thoughts when permitted by the instructor, but they should not replace student work. Students are responsible for analyzing and fact-checking AI-generated results. AI use should be minimal, appropriate to the assignment, and cited when used. Using AI to replace student work, using it for the majority of an assignment without permission, or failing to cite AI use when required will be treated as plagiarism.

ACCESSIBILITY, SYLLABUS CHANGES & NONDISCRIMINATION

Students with an IEP or 504 Plan who wish to earn college credit in this class through SVC should note that approved high school accommodations and modifications may not always apply to a class that also offers college credit. While both high schools and colleges must ensure that students with disabilities have equal access to educational opportunities, they are governed by different disability laws. **Students using a modified curriculum are not eligible to receive college credit.** Please reach out to the SVC Disability Access Services for more info.

[SVC Disability Access Services](#)

Changes to the Syllabus

I have attempted to make this syllabus as comprehensive and accurate as possible, and I may occasionally need to make small adjustments during the term. I will announce any changes in class or notify students in writing with an updated syllabus posted to the NCTA website.

Equal Opportunity and Title IX Nondiscrimination - SVC

Skagit Valley College does not discriminate based on, but not limited to, race, color, national origin, citizenship, ethnicity, language, culture, age, sex, gender identity or expression, sexual orientation, pregnancy or parental status, marital status, actual or perceived disability, use of service animal, economic status, military or veteran status, spirituality or religion, or genetic information in its programs, activities, or employment.