

Wyoming Department of Education Required Virtual Education Course Syllabus

BIG HORN COUNTY SCHOOL DISTRICT #1

Program Name	WYCA	Content Area	Vocational Education
Course ID	CAOT78092	Grade Level	9, 10, 11, 12
Course Name	Game Design I A	# of Credits	0.5
SCED Code	10203G0.5012	Curriculum Type	Connections Academy

COURSE DESCRIPTION

This course is for anyone who loves gaming and wants to design games. You'll learn how to use popular game design software to create engaging, interactive games in a variety of genres. In addition, you'll get a solid foundation in the basic concepts of game development. By the end of this course, you will have a variety of polished games for your game development portfolio.

WYOMING CONTENT AND PERFORMANCE STANDARDS

STANDARD#	BENCHMARK
CV12.1.1	College and career-ready students evaluate current knowledge and interests in order to set career goals.
CV12.1.2	College and career-ready students explore careers including outlook, salary, needed training, duties and lifestyle utilizing all available resources including mentors and industry experts.
CV12.1.3	College and career-ready students prepare an educational and career plan to enable them to gain desired knowledge and experience.
CV12.1.4	College and career-ready students demonstrate employability skills that enable them to be responsible and contributing citizens and employees.
CV12.2.1	College and career-ready students communicate clearly, effectively, and with reason.
CV12.2.2	College and career-ready students identify and model integrity, ethical leadership and effective management skills.
CV12.2.3	College and career-ready students work productively in teams while using cultural global competence.
CV12.2.4	College and career-ready students apply safe, legal, and responsible use of information and technology as appropriate to the task.
CV12.3.1	College and career-ready students identify and define authentic problems and significant questions for investigation.
CV12.3.2	College and career-ready students identify trends, forecast possibilities, and explore complex systems and issues.
CV12.3.3	College and career-ready students employ valid and reliable research strategies and apply prior knowledge to solve a problem or complete a project.
CV12.3.4	College and career-ready students demonstrate creativity and innovation while considering the environmental, social, and economic impacts of decisions.
CV12.4.1	College and career-ready students produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
CV12.4.2	College and career-ready students determine the meaning of symbols, key terms, and other content-specific words and phrases as they are used in technical context. (*Adapted from CCSS RL.9.11)
CV12.4.3	College and career-ready students acquire, manipulate, analyze, diagnose, and/or report information, using the appropriate technology.
CV12.4.4	College and career-ready students precisely follow a complex multistep procedure when performing technical tasks. (*Adapted from CCSS RL.9.3)
CV12.5.1	College and career-ready students manage resources to develop, analyze, and implement systems and applications.
CV12.5.2	College and career-ready students productively complete tasks taking constraints, priorities and resources into account.
CV12.5.3	College and career-ready students safely and ethically use current industry-standard tools and emerging technologies.
CV12.5.4	College and career-ready students utilize technology to develop innovative solutions or products.

SCOPE AND SEQUENCE

UNIT OUTLINE	STANDARD#	OUTCOMES
<p>Unit 1: Games and Gameplay This course is for anyone who loves gaming and wants to design games. The student will learn how to use popular game design software to create engaging, interactive games in a variety of genres. In addition, the student will get a solid foundation in the basic concepts of game development. By the end of this course, the student will have a variety of polished games for your game development portfolio.</p>	CV12.1.4, CV12.2.1, CV12.2.4, CV12.4.1, CV12.4.2, CV12.4.4, CV12.5.1, CV12.5.3, CV12.5.4	<ul style="list-style-type: none"> Explain the four basic elements of games Describe the difference between gameplay and game mechanics Understand how mastery contributes to a game's success or failure Discuss common game mechanics found in your favorite games
<p>Unit 2: Video Games: A Historical Reboot This course is for anyone who loves gaming and wants to design games. The student will learn how to use popular game design software to create engaging, interactive games in a variety of genres. In addition, the student will get a solid foundation in the basic concepts of game development. By the end of this course, the student will have a variety of polished games for your game development portfolio.</p>	CV12.1.4, CV12.2.1, CV12.2.4, CV12.4.1, CV12.4.2, CV12.4.4, CV12.5.1, CV12.5.3, CV12.5.4	<ul style="list-style-type: none"> Understand the functions of the components of a game console Explain the way 2-D and 3-D graphics are rendered in computer games with graphing knowledge from mathematics Identify an example of a hardware constraint for video games and how it was overcome Describe the technological developments that contributed to the video game industry

<p>Unit 3: What Is Game Design? This course is for anyone who loves gaming and wants to design games. The student will learn how to use popular game design software to create engaging, interactive games in a variety of genres. In addition, the student will get a solid foundation in the basic concepts of game development. By the end of this course, the student will have a variety of polished games for your game development portfolio.</p>	<p>CV12.1.1, CV12.1.2, CV12.1.3, CV12.1.4, CV12.2.1, CV12.2.2, CV12.2.3, CV12.2.4, CV12.3.1, CV12.3.2, CV12.3.3, CV12.3.4, CV12.4.1, CV12.4.2, CV12.4.3, CV12.4.4, CV12.5.1, CV12.5.2, CV12.5.3, CV12.5.4</p>	<ul style="list-style-type: none"> • Describe the various roles on a game development team • Explain the game design process, from concept to finished game • List software commonly used in game development • Analyze a game idea through the proper filters to determine whether it is a feasible idea
<p>Unit 4: Into the Nitty-Gritty This course is for anyone who loves gaming and wants to design games. The student will learn how to use popular game design software to create engaging, interactive games in a variety of genres. In addition, the student will get a solid foundation in the basic concepts of game development. By the end of this course, the student will have a variety of polished games for your game development portfolio.</p>	<p>CV12.1.4, CV12.2.1, CV12.2.4, CV12.4.1, CV12.4.2, CV12.4.4, CV12.5.1, CV12.5.3, CV12.5.4</p>	<ul style="list-style-type: none"> • Differentiate between player-centric and designer-centric game design • Explain how point-of-view and game camera views are different, giving examples of each • Define player immersion and show how immersion can be enhanced through different elements of game design
<p>Unit 5: Let's Make a Game! This course is for anyone who loves gaming and wants to design games. The student will learn how to use popular game design software to create engaging, interactive games in a variety of genres. In addition, the student will get a solid foundation in the basic concepts of game development. By the end of this course, the student will have a variety of polished games for your game development portfolio.</p>	<p>CV12.1.4, CV12.2.1, CV12.2.4, CV12.4.1, CV12.4.2, CV12.4.4, CV12.5.1, CV12.5.3, CV12.5.4</p>	<ul style="list-style-type: none"> • Move between the four main views in Unity • Explain how video games apply physics concepts, such as friction, drag, and collision • Describe how video games apply the mathematical concept of a 3-dimensional space, or a 3-axis coordinate system • Write a simple script in Unity