Game Design 11/12
Board/Authority Approved Course

North Okanagan Shuswap	School District 83
Developed By: Brad Hampel	Date Developed: Jan 25th, 2021
School Name: **Salmon Arm Secondary School – Sullivan Campus**	Principal's Name: **Mr. Rob Cadden**
Superintendent Approval Date:	Superintendent Signature:
Board/Authority Approval Date:	Board/Authority Chair Signature:
Course: Game Design 11/12	Grade Level of Course: 11/12
Number of Course Credits: 4	Number of Hours of Instruction: 120

Board/Authority Prerequisite(s):
Recommended to have taken Digital Media 10/11 or Computer Programming 10/11

Special Training, Facilities, or Equipment Required:
A fully equipped computer lab is required (Room 261 at our Campus), photo editing software, graphic design software, publishing software, computer programming software, training in software use and techniques and equipment. Training required in both the visual arts and core programming components of the course.

Course Synopsis:
Game Design 11/12 students will be gaining important skills necessary for a future career in the game design industry, which is a growing and expanding multi-billion dollar industry. The students will complete a variety of tasks with the ultimate goal of creating or being part of the development of a game either from the artistic or programming standpoint. Game Design students will gain an appreciation and develop necessary skills for the complexity of creating games which include: research, editing, graphic design, character animation, digital arts (design, layout and manipulation), programming, code development and computer skills as well as exploring topics such as what makes games successful.
Students will cooperatively develop a game theme, design the graphics and art, complete programming tasks and meet development guidelines. Students will use and master their skills in Adobe Photoshop, Illustrator, Character Animator, Blender, Unity, C#, Visual Studio and related software, Javascript, HTML and related game technologies.

Goals and Rationale:

Goals:

Develop an understanding of the game development process from conception to creation
Develop skills specific to the art and science behind game development including content creation, graphic and art design, computer programming, editing and publishing
Develop the understanding and skills to design personal and culturally expressive art and programming
Develop competencies such as creative thinking, design and communication
Develop students social and academic skills
Develop and help students become creators NOT just consumers of interesting and exciting things
Provides opportunities for high-level problem solving, conflict resolution and strategic thinking skills

Rationale: [detailed, multi-paragraph description of why the course should be offered to students.

Game design 11 is a STEM course that allows students an opportunity to develop skills in the science, technology, engineering, mathematics and arts spheres in our school, using the existing resource that our Sullivan Campus possess. This course has the unique ability to blend and mesh concepts of media design (graphic and arts design) and engineering with programming and design. It is in essence, it could be considered the perfect blend of design and creation, and gives SAS the ability to offer a course that focuses students on the concepts of creation over consumption.

But why is this important? The gaming industry in the world is expected to be a 300+ billion dollar industry by 2025, and game designers and their related fields have starting salaries of 80K+. We want to give the students at SAS an opportunity to experience the excitement and passion of game creation that has the potential to ignite a flame for a future career in this art. The video game industry is massive – with jobs all across the globe, and there are so many universities and colleges running programs to help students build the skills necessary in this exciting and developing field.

Aboriginal Worldviews and Perspectives:

Declaration of First Peoples Principles of Learning:

- Learning ultimately supports the well-being of the self, the family, the community, the land, the spirits, and the ancestors – Game Design 11/12 students will gain confidence, and become more aware and involved members of our community
- Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place). Game Design 11/12 will help students focus in a collaborative learning environment.
- Learning involves patience and time. Game Design 11/12 students will be allowed to make mistakes, and learn from them as well as support each other in finding solutions to their challenges

Declaration of Aboriginal Worldviews and Perspectives:

The Power of Story

Implications for Educational Practice

Learn some of the traditional stories told within the local Aboriginal community. Then use them as a touchstone for your students when applicable "teachable moments" arise. Give students opportunities to apply and demonstrate the skills associated with oral storytelling: memorize, internalize, and present (re-tell exactly). During game design 11/12, students benefit from opportunities to tell their own experiential stories and listen and respond to those of peers. Metaphor, analogy, example, allusion, humour, surprise, formulaic phrasing, etc. are storytelling devices that can be applied when explaining almost any non-fiction concept. We will make an effort to use devices of this sort in all subject areas and to draw upon stories of the local Aboriginal community

Engagement with the Land, Nature, the Outdoors

Implications for Educational Practice

Students in game design 11/12 will have opportunities to get interested and engaged with the natural world immediately available (place-based education in the area near our school). Illustrations using locally observable examples and phenomena, physical education activities, homework assignments, and student projects are examples of opportunities to promote this type of engagement. Plan and organize to take instruction and learning outdoors where possible, organizing instructional planning to facilitate this. Explore team leadership and the use of resources such as skilled Aboriginal community members and third-party outdoor education specialists to facilitate and help deal with the challenges associated with leaving the confines of the school (e.g., the need for equipment, expertise in outdoor environments, risk management, transportation).

Assessment and Evaluation:

Formative Assessment:

- Tutorials and practice exercises
- Journals used to document experiential learning
- Self-reporting
- Peer and self-assessment

Summative Assessment:

- Student teacher conferencing and feedback
- Student demonstrations of ability which can show evidence of knowledge and understanding.

Course Name: Game Design 11

BIG IDEAS

The design cycle is an ongoing reflective process.	Personal design choices require self-exploration, collaboration, and evaluation and refinement of skills.	Tools and technologies can be adapted for specific purposes.		

Learning Standards

Curricular Competencies	Content
Students are expected to do the following: **Applied Design** *Understanding context* • Conduct user-centred research to understand design opportunities and barriers *Defining* • Establish a point of view for a chosen design opportunity • Identify potential users, intended impact, and possible unintended negative consequences • Make inferences about premises and constraints that define the design space *Ideating* • Identify gaps to explore a design space	*Students are expected to know the following:* • design opportunities • elements of design • principles of design • ethical, moral, and legal considerations associated with using game development technology for image, video, and sound development • establish fundamental skills in game theory, pre-production techniques, and storytelling • shape a 2D or 3D model and incorporate it into a game • stage a scene • shift from a theoretical to a practical with hands-on experiences working on detailed design • create front-end game interfaces and begin specialized coding, game art or level design. • establish play-testing of your game • design game environments and characters • develop a storyboard • apply critical thinking and creative expression techniques

• Generate ideas and add to others' ideas to create possibilities, and prioritize them for prototyping • Critically analyze how competing social, ethical, and sustainability considerations impact designed solutions to meet global needs for preferred futures • Work with users throughout the design process *Prototyping* • Identify and apply sources of inspiration and information • Choose an appropriate form, scale, and level of detail for prototyping, and plan procedures for prototyping multiple ideas • Analyze the design for the life cycle and evaluate its impacts • Construct prototypes, making changes to tools, materials, and procedures as needed • Record iterations of prototyping *Testing* • Identify feedback most needed and possible sources of feedback • Develop an appropriate test of the prototype • Collect feedback to critically evaluate design and make changes to product design or processes • Iterate the prototype or abandon the design idea *Making* • Identify appropriate tools, technologies, materials, processes, and time needed for production • Use project management processes when working individually or collaboratively to coordinate production *Sharing* • Share progress while creating to increase opportunities for feedback • Decide on how and with whom to share or promote their product, creativity, and, if applicable, intellectual property • Consider how others might build upon the design concept	• appreciate key characteristics and artistic styling in media artworks to explore multiple viewpoints and to explore the First Peoples perspectives in Canada • understand game design presentation skills for potential clients

- Critically reflect on their design thinking and processes, and identify new design goals
- Assess ability to work effectively both as individuals and collaboratively while implementing project management processes

Applied Skills

Apply safety procedures for themselves, co-workers, and users in both physical and digital environments
Identify and assess skills needed for design interests, and develop specific plans to learn or refine them over time

Applied Technologies

Explore existing, new, and emerging tools, technologies, and systems to evaluate their suitability for their design interests
Evaluate impacts, including unintended negative consequences, of choices made about technology use
Analyze the role technologies play in societal change
Examine how cultural beliefs, values, and ethical positions affect the development and use of technologies

Course Name: Game Design 12

BIG IDEAS

	The design cycle is an ongoing reflective process.	Personal design choices require self-exploration, collaboration, and evaluation and refinement of skills.	Tools and technologies can be adapted for specific purposes.	

Learning Standards

Curricular Competencies	Content
Students are expected to do the following: **Applied Design** *Understanding context* • Conduct user-centred research to understand design opportunities and barriers *Defining* • Establish a point of view for a chosen design opportunity • Identify potential users, intended impact, and possible unintended negative consequences • Make inferences about premises and constraints that define the design space *Ideating* • Identify gaps to explore a design space	*Students are expected to know the following:* • design opportunities • elements of design • principles of design • ethical, moral, and legal considerations associated with using game development technology for image, video, and sound development • enhance and develop advanced skills in game theory, pre-production techniques, and storytelling • shape a 2D or 3D model and incorporate it into a game • shift from a theoretical to a practical with hands-on experiences working on detailed design • elaborate and expand front-end game interfaces and continue specialized coding, game art or level design. • design advanced game environments and characters • develop advanced storyboards • conceive, plan and execute or be part of a final project that delivers a rewarding interactive experience

• Generate ideas and add to others' ideas to create possibilities, and prioritize them for prototyping • Critically analyze how competing social, ethical, and sustainability considerations impact designed solutions to meet global needs for preferred futures • Work with users throughout the design process *Prototyping* • Identify and apply sources of inspiration and information • Choose an appropriate form, scale, and level of detail for prototyping, and plan procedures for prototyping multiple ideas • Analyze the design for the life cycle and evaluate its impacts • Construct prototypes, making changes to tools, materials, and procedures as needed • Record iterations of prototyping *Testing* • Identify feedback most needed and possible sources of feedback • Develop an appropriate test of the prototype • Collect feedback to critically evaluate design and make changes to product design or processes • Iterate the prototype or abandon the design idea *Making* • Identify appropriate tools, technologies, materials, processes, and time needed for production • Use project management processes when working individually or collaboratively to coordinate production *Sharing* • Share progress while creating to increase opportunities for feedback • Decide on how and with whom to share or promote their product, creativity, and, if applicable, intellectual property • Consider how others might build upon the design concept	• engage with ongoing play-testing of your game • apply critical thinking and creative expression techniques • appreciate key characteristics and artistic styling in media artworks to explore multiple viewpoints and to explore the First Peoples perspectives in Canada • expand and describe game design presentation skills for potential clients

- Critically reflect on their design thinking and processes, and identify new design goals
- Assess ability to work effectively both as individuals and collaboratively while implementing project management processes

Applied Skills

Apply safety procedures for themselves, co-workers, and users in both physical and digital environments
Identify and assess skills needed for design interests, and develop specific plans to learn or refine them over time

Applied Technologies

Explore existing, new, and emerging tools, technologies, and systems to evaluate their suitability for their design interests
Evaluate impacts, including unintended negative consequences, of choices made about technology use
Analyze the role technologies play in societal change
Examine how cultural beliefs, values, and ethical positions affect the development and use of technologies