SCHOOL DISTRICT NO. 73
(Kamloops - Thompson)

Board/Authority Authorized Course Framework Template

School District/Independent School Authority Name: School District No. 73 (Kamloops-Thompson)	**School District/Independent School Authority Number (e.g. SD43, Authority #432):** SD73
Developed by: Kash Dhaliwal	**Date Developed:** Dec 6, 2018
School Name: South Kamloops Secondary School	**Principal's Name:** Walt Kirschner
Superintendent Approval Date (for School Districts only):	**Superintendent Signature (for School Districts only):**
Board/Authority Approval Date:	**Board/Authority Chair Signature:**
Course Name: Video Game Maker 11	**Grade Level of Course:** 11
Number of Course Credits: 4	**Number of Hours of Instruction:** 120

Board/Authority Prerequisite(s):

None

Special Training, Facilities or Equipment Required:

Instructor should have a computer programming or video game industry background, or experience in a similar area. Facilities should include a Windows based computer lab. Additionally, 2D art generation software and digital game making software need to be installed on all computers.

Course Synopsis:

This course has been developed to introduce the student to both classical and modern video games. Students will learn the history of video games, the related social issues, and explore various genres of video game creation. The students will be expected to think creatively, designing their own sprites, sounds and themes. This course gives students the introduction to the art and science of interactive video game creation. Students learn the fundamentals of digital artwork, animation and computer science concepts required to create game software. Upon completion of the course students will have developed several increasingly complex video game projects and will have a fundamental understanding of general programming concepts.

Goals and Rationale:

This course has been developed as an introduction to the field of video game creation. Given that British Columbia is attracting more video game production companies, this program will provide our students an opportunity to participate in curriculum that can be tied to many future employment opportunities. Game

development skills will be stressed as well as student creativity. Students will be encouraged to explore all the major genres of video games throughout the course. They will be expected to create game layouts, examine the architecture of a game, character development, backgrounds, audio and animations.

Goals:

- 2D digital art generation and simple 2D animation
- Programming principles common to every programming language
- Gamed design concepts that create enjoyable experiences
- Principles of art and animation that create a pleasing aesthetic
- Proficiency in using a modern game engine to create a video game

Aboriginal Worldviews and Perspectives:

Understanding indigenous cultural sensitivity in the development of games is imperative and opportunities to explore aboriginal perspectives within the Art and Game Design are significant. This is a heavily project-based course with numerous opportunities to explore topics of personal or societal interest. Students will be encouraged to both incorporate aboriginal artistic elements in their projects as well as to explore culturally relevant topics.

Some of the First People Principles of Learning closely tied to this course include:

Learning in a holistic, reflective, experiential and relational

Learning is embedded in memory, history and story

Learning involves patience and time

Learning requires exploration of one's identity

Course Name: **Grade:**

BIG IDEAS

Game design /storyboarding are different from game consumption and requires a distinct skillset		Programming is a fundamental aspect of video game development.		Programming tools and technologies can be adapted for specific purposes independent of programming language.

Learning Standards

Curricular Competencies	Content
Students are expected to do the following: History: • Identify different hardware used to make video games during the last 30 years. • Identify various historical games that influence current video games. • Demonstrate an understanding about graphic technology and how it has changed. • Demonstrate an understanding about how we currently interact with games. Ideating/Design: • Identify various game genres (action, fighting, sport simulators, and others). • Identify the crucial aspects that determine various game types. • Identify the different types of gamers that play games. • Demonstrate an understanding of what determines a good game. • Demonstrate an understanding about what ingredients make a good game. • Demonstrate the formal meaning of the word “a game”. • Identify the different rules that form the structure of a game. • Demonstrate the ability to formally review game titles. • Demonstrate an understanding of game architecture. • Demonstrate the ability to understand and use the Game Maker interface. • Demonstrate the ability to modify already created sprites and create original sprites using an art program. • Demonstrate the ability to understand the limits and potential of using Game Maker as a creative tool. • Demonstrate what a balanced game must include. • Create a story that will interest the gamer. **Prototyping** • Develop a maze game that incorporates appointed criteria. • Develop a platform game that incorporates appointed criteria. • Develop a scrolling shooter that incorporates appointed criteria.	*Students are expected to know the following:* -History of video games and industry -Understand graphic technology and interaction techniques -Game play and the diversifying game market -Formal structure design of games and good game development through game architecture and the connection with hardware and software -Class creation within the context of programming language objects that require both variable and functions -Structure of design, sequence and flow control statements including conditionals, looping structures and game loops -Programming language constructs to support input/output, logic, decision structure, and loops -Fundamental art elements -Principles of animation - Industry terminology - Integration of 2D art design and 2D game engine - Strategies to predict effects of code modification - Translation of design specifications into source code - Tools to aid in the development process - Inline commenting to document source code - Use of test cases to detect logical or semantic errors - Computational thinking processes - Appropriate use of technology, including digital citizenship, and etiquette

Big Ideas – Elaborations
None

Curricular Competencies – Elaborations
None

Content – Elaborations
None

Recommended Instructional Components:

- Direct instruction through lecture and class discussions on various course topics that include history, game play and design. Step by step instruction will be based on illustrating functions of Game Maker's interface.
- Student will be exposed to videos, internet sites, and old arcade classics to expand their knowledge of videogame history, and to reinforce what makes an excellent game.
- Indirect instruction by the students through inquiry, induction, problem solving. They will research websites directly, evaluate old arcade classics, and the new creations of their classmates.
- After being progressively introduced to new Game Maker features, students will try these independently.
- Analysis of other commercial arcade/computer games.
- Self-assessment, skills based assessment, formative feedback

Recommended Assessment Components: Ensure alignment with the Principles of Quality Assessment

Due to the nature of this course, evaluation is on-going. Each unit builds on principals mastered from previous units. Successful completion of each unit is necessary for success in this course. The value of each unit is proportional to unit length. Theory covered throughout the course will be assessed by quizzes and tests that are multiple choice, matching and short answer(s). Individually created games will be evaluated using a criteria based template that covers topics such as graphics, sound, theme, game play, playability, etc. Student created games will be evaluated both by student(s) and instructor.

Learning Resources:

- Game Maker (Program)
- Photoshop or PhotoDraw (Drawing Program)
- Book: Awesome Game Creation, Game Maker Apprentice

Additional Information:

This is a beginning course that should help student's discover if their interest in video games is stronger than simply playing them. One computer per student is essential to make this course work. There are several Game Making Programs available for the PC; however, Game Maker is quite powerful, affordably priced, and offers useful teaching resources.