



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: Andres Ruberg	Date Developed: Mar. 1, 2019
School Name: Sa-Hali Secondary School	Principal's Name: Rachael Sdoutz
Superintendent Approval Date (for School Districts only):	Superintendent Signature (for School Districts only):
Board/Authority Approval Date:	Board/Authority Chair Signature:
Course Name: SD73 Tech Academy 12B	Grade Level of Course: 12
Number of Course Credits: 4	Number of Hours of Instruction: 120

Board/Authority Prerequisite(s):

None

Special Training, ,

Instructor should have Computer Science background, or experience in similar area. Facilities should include a computer lab with a digital projector and computers purchased within the last 5 years, each equipped with dedicated video cards. Additionally, 2D/3D art generation software, a programming environment with a 2D game creation library, and 2D/3D digital game-making software need to be installed on all computers.

Course Synopsis:

This course is the second of four courses that make up the SD73 Tech Academy Program. This academy is a unique opportunity for students to gain experience working in a collaborative, inquiry-based environment where they develop the skills necessary to create video games. The abilities developed are a blend of generic skills that will serve them in almost any future opportunity (project management, collaborative problem-solving, time management, and creative expression) and industry-specific skills (computer science, programming, mathematics, physics, digital animation, game design, and user interface design). Students finishing the Academy will have a strong sense of whether or not they are interested in pursuing future opportunities in the digital arts or software development industries, and have an awareness of

Goals and Rationale:

<p>Project Management:</p> <ul style="list-style-type: none"> • Identify and implement Minimum Viable Product (MVP) features before adding additional elements to a project • Build a framework for a multi-week project, with self-determined time-frames and deadlines • Reflect on a project in a post-mortem activity, in which a student will identify areas of success and potential improvements for future projects <p>Mathematics & Physics:</p> <ul style="list-style-type: none"> • Create vectors from a diagram, list of points or visual description using cartesian coordinates, distances and angles • Normalize, scale, and add vectors • Solve problems involving both kinematics and dynamics using forces, acceleration, and vector diagrams 	<p>programming language (variables, functions, constructors, getters/setters etc.)</p> <ul style="list-style-type: none"> • simple commands and functionality of a 2D game engine • common commenting standards in the context of programming • fundamentals of event-based flow control (used by most modern video game engines) • exporting procedures in order to share work created using specialized software that by default saves work using a proprietary file format • vector terminology (direction, magnitude, normalization etc.)
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Big Ideas – Elaborations

None

Curricular Competencies – Elaborations

None

Content – Elaborations

None

Recommended Instructional Components:

- Direct Instruction
- Demonstration
- Modeling
- Peer Teaching

- Experiential Learning
- Reflective Writing
- Project-based Learning

Recommended Assessment Components: Ensure alignment with the Assessment

Principles of Quality

- Journaling
- Self-assessment
- Performance Assessment
- Skills-based Assessment
- Formative feedback
- Iterative Assessment

One Working Model:

Students will be given formative feedback during the instructional components of the course. This feedback is to help students understand their areas of strength and areas of challenge so that they can properly scope their projects and identify areas in which they may need to seek additional assistance and/or resources.

During formal assessments and projects, key skills will be identified to students at the project outset along with levels of proficiency within each of those skills. Each level of proficiency will have descriptive statements of what a student needs to demonstrate in order to achieve that level. Students will be reminded of this document throughout a project so

The Zero Engine Workshop Website: <https://zero.digipen.edu/Workshops/2016/index.html>

Additional Information:

None