

Board/Authority Authorized Course:  
SD73 Tech Academy 12C

School District/Independent School Authority Name:	SD73
Developed by: Andres Ruberg	Date Developed:
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:

Number of Hours of Instruction:

	120
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Board/Authority Prerequisite(s):

None

Special Training, Facilities or Equipment Required:

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



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Goals and Rationale:

Rationale:

British Columbia is rapidly attracting a concentration of video game production companies. Employment and compensation opportunities provided in this industry are among the fastest growing in Canada's knowledge-based economy. This academy will provide our students with an opportunity to participate in curriculum that can be tied to nearly any future employment opportunity, while gaining skills specific to the fields of video game creation, digital animation and programming. Additionally, students will develop cross-curricular knowledge and skills in disciplines such as Mathematics, Science, and Art. Additionally, this academy connects students to post-secondary institutes that offer either scholarship opportunities or dual credit for Computer Science courses.

Goals:

- x 2D and 3D digital art generation in addition to 3D and 2D animation
- x Programming principles common to every programming language
- x Game design concepts that create enjoyable experiences
- x Principles of art and animation that create a pleasing aesthetic
- x Proficiency in using a modern game engine to create a video game
- x Time-management and project-management strategies
- x Collaborative problem-solving
- x Mathematics and Physics concepts utilized to create real-time interactive simulations (video games)

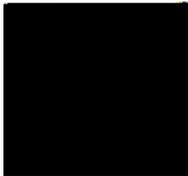
Aboriginal Worldviews and Perspectives:

The opportunities to explore aboriginal perspectives within 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. Aboriginal speakers can be invited into the classroom to comment on the appropriateness of integrating their culture into a product such as a video game and the considerations students would want to take into account when developing projects inspired by aboriginal cultural elements.

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

- x Learning is holistic, reflexive, reflective, experiential and relational
- x Learning involves recognizing the consequences of one's actions





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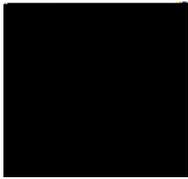
- vision, simulating a client/freelancer arrangement
- x Synthesize multiple background images to create the effect of 3D parallax within a 2-dimensional game environment
- x Interact with industry professionals in this field and research post-secondary opportunities related to digital art

**Project Management:**

- x Use “check-in” points in a project time-line to ensure that your product is on schedule, and adapt project objectives when behind schedule

**Mathematics & Physics:**

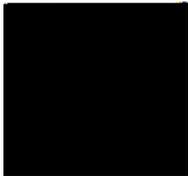
- x Develop realistic simulations within games using



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x Peer Teaching

x



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Interims summarizing current student ability should be sent home 4 times per semester. All project assessment documents should be available for students and parents to view online at any point for reference.

Learning Resources:

Python Arcade Documentation by Paul Craven: <https://media.readthedocs.org/pdf/arcade-book/latest/arcade-book.pdf>

DigiPen Technology Academy Manuals (Modules 1-5)

Guide to Writing SMART Goals: <https://www.smartsheet.com/blog/essential-guide-writing-smart-goals>

Guide to Agile Project Management: <https://www.cio.com/article/3156998/agile-development/agile-project-management-a-beginners-guide.html>

Khan Academy: <https://www.khanacademy.org/>

Extra Credits Game Design / Career Videos: <https://www.youtube.com/user/ExtraCredits/featured>

Mark Brown Game Design Videos: <https://www.youtube.com/channel/UCqJ-Xo29CKyLTjn6z2XwYAw>

DigiPen Technology Academy Java Introductory Materials and Alpha Game Engine

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

Additional Information:

None