

## BIG IDEAS

Social, ethical, and sustainability considerations impact design.

Complex tasks require the sequencing of skills.

Complex tasks require different technologies and tools at different stages.

## Learning Standards

| Curricular Competencies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| <p><i>Students are expected to be able to do the following:</i></p> <p><b>Applied Design</b></p> <p><i>Understanding context</i></p> <ul style="list-style-type: none"> <li>Engage in a period of <b>research</b> and <b>empathetic observation</b> in order to understand design opportunities</li> </ul> <p><b>Defining</b></p> <ul style="list-style-type: none"> <li>Choose a design opportunity</li> <li>Identify potential users and relevant contextual factors</li> <li>Identify criteria for success, intended impact, and any <b>constraints</b></li> </ul> <p><b>Ideating</b></p> <ul style="list-style-type: none"> <li>Take creative risks in generating ideas and add to others' ideas in ways that enhance them</li> <li>Screen ideas against criteria and constraints</li> <li>Critically analyze and prioritize competing factors, including social, ethical, and sustainability considerations, to meet community needs for preferred futures</li> <li>Choose an idea to pursue, keeping other potentially viable ideas open</li> </ul> <p><b>Prototyping</b></p> <ul style="list-style-type: none"> <li>Identify and use <b>sources of inspiration</b> and information</li> <li>Choose a form for prototyping and develop a <b>plan</b> that includes key stages and resources</li> <li>Evaluate a variety of materials for effective use and potential for reuse, recycling, and biodegradability</li> <li>Prototype, making changes to tools, materials, and procedures as needed</li> <li>Record <b>iterations</b> of prototyping</li> </ul> | <p><i>Students are expected to know the following:</i></p> <ul style="list-style-type: none"> <li><b>media technologies</b> or image development and design</li> <li>techniques for organizing ideas to structure stories or information and to create points of view in images</li> <li><b>media production skills</b></li> <li><b>standards compliant</b> technology</li> <li><b>ethical, moral, and legal considerations</b> associated with media arts technology use</li> <li>technical and symbolic elements that can be used to create representations influenced by points of view, story, genre, and values</li> <li>specific features and purposes of media artworks, from the present and past, to explore viewpoints, including those of First Peoples</li> <li>influences of digital and non-digital media in documentation, communication, reporting, and self-expression</li> </ul> |

Learning Standards (continued)

| Curricular Competencies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Content |
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| <p><i>Testing</i></p> <ul style="list-style-type: none"> <li>Identify <b>sources of feedback</b></li> <li>Develop an <b>appropriate test</b> of the prototype</li> <li>Conduct the test, collect and compile data, evaluate data, and decide on changes</li> <li>Iterate the prototype or abandon the design idea</li> </ul> <p><i>Making</i></p> <ul style="list-style-type: none"> <li>Identify and use appropriate tools, <b>technologies</b>, materials, and processes for production</li> <li>Make a step-by-step plan for production and carry it out, making changes as needed</li> <li>Use materials in ways that minimize waste</li> </ul> <p><i>Sharing</i></p> <ul style="list-style-type: none"> <li>Decide on how and with whom to <b>share</b> their <b>product</b> and processes</li> <li>Demonstrate their product to potential users, providing a rationale for the selected solution, modifications, and procedures, using appropriate terminology</li> <li>Critically evaluate the success of their product, and explain how their design ideas contribute to the individual, family, community, and/or environment</li> <li>Critically reflect on their design thinking and processes, and evaluate their ability to work effectively both as individuals and collaboratively in a group, including their ability to share and maintain an efficient co-operative work space</li> <li>Identify new design issues</li> </ul> <p><b>Applied Skills</b></p> <ul style="list-style-type: none"> <li>Demonstrate an awareness of precautionary and emergency safety procedures in both physical and digital environments</li> <li>Identify the skills and skill levels needed, individually or as a group, in relation to specific projects, and develop and refine them as needed</li> </ul> <p><b>Applied Technologies</b></p> <ul style="list-style-type: none"> <li>Choose, adapt, and if necessary learn about appropriate tools and technologies to use for tasks</li> <li>Evaluate the personal, social, and environmental impacts, including unintended negative consequences, of the choices they make about technology use</li> <li>Evaluate how the land, natural resources, and culture influence the development and use of tools and technologies</li> </ul> |         |

Curricular Competencies – Elaborations

- **research:** seeking knowledge from other people as experts (e.g., First Peoples Elders), secondary sources, and collective pools of knowledge in communities and collaborative atmospheres
- **empathetic observation:** aimed at understanding the values and beliefs of other cultures and the diverse motivations and needs of different people
- **Defining:** setting parameters
- **constraints:** limiting factors such as task or user requirements, materials, expense, environmental impact, issues of appropriation, and knowledge that is considered sacred
- **Ideating:** forming ideas or concepts
- **sources of inspiration:** may include experiences; traditional cultural knowledge and approaches, including those of First Peoples; places, including the land and its natural resources and analogous settings; and people, including users, experts, and thought leaders
- **plan:** for example, pictorial drawings, sketches, flow charts
- **iterations:** repetitions of a process with the aim of approaching a desired result
- **sources of feedback:** may include peers; users; keepers of traditional cultural knowledge and approaches, including those of First Peoples; and other experts
- **appropriate test:** consider conditions, number of trials
- **technologies:** things that extend human capabilities
- **share:** may include showing to others, use by others, giving away, or marketing and selling
- **product:** for example, a physical product, a process, a system, a service, or a designed environment

Content – Elaborations

- **media technologies:** for example, video production, layout and design, graphics and images, photography (digital and traditional), emerging media processes (performance art, collaborative work, sound art, network art, kinetic art, biotechnical art, robotic art, space art)
- **media production skills:** Pre-production involves the planning you do before beginning a production (e.g., treatments, scripts, storyboards, and costume designs). Production is the stage in which you create and actively develop your product (e.g., shooting video or film, developing negatives and making enlargements, setting up lights, and programming a website). Post-production occurs once the bulk of the production process is complete and involves fine-tuning and manipulating your production, resulting in a complete and coherent product (e.g., editing video footage, touching up and mounting photos, and conducting multimedia tests).
- **standards compliant:** for example, layout conventions, mark-up language, current web standards, or other digital media compliance requirements
- **ethical, moral, and legal considerations:** for example, regarding duplication, copyright, and appropriation of imagery, sound, and video