BRITISH
COLUMBIA
Ministry of Education

BIG IDEAS

Design for the life cycle includes consideration of social and **environmental impacts**.	Design choices require the evaluation and refinement of skills.	Tools and technologies can be adapted for specific purposes.

Learning Standards

Curricular Competencies	Content
Students are expected to be able to do the following:	*Students are expected to know the following:*
Applied Design	• design and production opportunities
Understanding context	• **technologies for image development** in **prepress** through post-production environments
• Engage in a period of **user-centered research** and **empathetic observation**	• **elements** and **principles of design** as communication tools
• Participate in **reciprocal relationships** throughout the design and production process	• **design for the life cycle**
Defining	• intellectual property use and its **ethical, moral, and legal considerations**, including **cultural appropriation**
• Establish a point of view for a chosen design opportunity	• **standards** of production and **limitations** of chosen materials for efficient output
• Identify potential users, intended impact, and possible unintended negative consequences	• **standards-compliant** technology
• Make inferences about premises and **constraints** that define the design and production	• balance of form and function
Ideating	• influences on culture through **graphic production**
• Generate ideas and add to others' ideas to create possibilities, and prioritize them for prototyping	• graphic design through various stages of project
• Critically analyze how competing social, ethical, and sustainability considerations impact designed solutions to meet global needs	• use of **typography** to communicate a message or idea
• Work with users throughout the design process	• materials organization, planning, and time frame
	• role of manufacturing in meeting consumer needs and wants
	• design presentation skills for potential clients
	• appropriate use of technology, including digital citizenship, etiquette, and literacy

Learning Standards (continued)

Curricular Competencies	Content
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 design processes and production • 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 and collaboration • Decide on how and with whom to share or promote product, creativity, and, if applicable, **intellectual property** • Consider how others might build upon the design concept • 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	

Learning Standards (continued)

Curricular Competencies	Content
Applied Skills • Apply safety procedures for themselves, co-workers, and users in both physical and digital environments • Identify and assess skills needed for design and production interests, and develop specific plans to learn or refine them over time • Develop competency and proficiency in task-specific skills involving manual dexterity and software processes **Applied Technologies** • Explore existing, new, and emerging tools, **technologies**, and systems to evaluate suitability for their design and production 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	

- **environmental impacts:** including manufacturing, packaging, and disposal and recycling considerations

- **user-centred research:** research done directly with potential users to understand how they do things and why, their physical and emotional needs, how they think about the world, and what is meaningful to them
- **empathetic observation:** may include experiences; traditional cultural knowledge and approaches; First Peoples worldviews, perspectives, knowledge, and practices; places, including the land and its natural resources and analogous settings; users, experts, and thought leaders
- **reciprocal relationships:** communicate with knowledge keepers for greater understanding of perspectives and history within the community, such as seniors, Elders, chiefs, First Nations tribal or band councils, and later career professionals
- **constraints:** limiting factors, such as available technology, expense, environmental impact, copyright
- **sources of inspiration:** may include aesthetic experiences; exploration of First Peoples perspectives and knowledge; the natural environment and places, including the land, its natural resources, and analogous settings; people, including users, experts, and thought leaders
- **information:** may include professionals; First Nations, Métis, or Inuit community experts; secondary sources; collective pools of knowledge in communities and collaborative atmospheres both online and offline
- **impacts:** including the social and environmental impacts of extraction and transportation of raw materials, manufacturing, packaging, transportation to markets, servicing or providing replacement parts, expected usable lifetime, and reuse or recycling of component materials
- **iterations:** repetitions of a process with the aim of approaching a desired result
- **sources of feedback:** may include peers; users; First Nations, Métis, or Inuit community experts; other experts and professionals both online and offline
- **appropriate test:** includes evaluating the degree of authenticity required for the setting of the test, deciding on an appropriate type and number of trials, and collecting and compiling data
- **project management processes:** setting goals, planning, organizing, constructing, monitoring, and leading during execution
- **Share:** may include showing to others, use by others, giving away, or marketing and selling
- **intellectual property:** creations of the intellect such as works of art, invention, discoveries, design ideas to which one has the legal rights of ownership
- **technologies:** tools that extend human capabilities

- **technologies for image development:** for example, layout and design, graphics and images, photography (digital and traditional), new and emerging media processes
- **prepress:** transferring file from the computer to one that can be output
- **elements:** for example, colour, form, line, shape, space, texture, tone, value
- **principles of design:** for example, balance, contrast, emphasis, harmony, movement, pattern, repetition, rhythm, unity
- **design for the life cycle:** taking into account in the design process, economic costs, and social and environmental impacts of the product, from the extraction of raw materials to eventual reuse or recycling of component materials
- **ethical, moral, and legal considerations:** for example, regulatory issues relating to responsibility for duplication, copyright, appropriation of imagery, sound, and video
- **cultural appropriation:** using or sharing a cultural motif, theme, "voice," image, knowledge, story, song, or drama without permission or without appropriate context or in a way that may misrepresent the real experience of the people from whose culture it is drawn
- **standards:** for example, units, sizes, materials
- **limitations:** for example, cost, availability, physical properties, product hazards
- **standards-compliant:** for example, layout conventions, mark-up language, current web standards, or other digital media compliance requirements
- **graphic production:** for example, yearbook, 2D and 3D graphics, printing technology, vinyl graphics, sign design, print technician, graphic communications, commercial print production, packaging, new media, marketing communications
- **typography:** the art, design, and technique of crafting and arranging type for effective and aesthetic communication