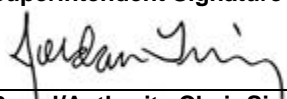


## Board/Authority Authorized Course Framework

<b>School District/Independent School Authority Name:</b> Surrey	<b>School District/Independent School Authority Number (e.g. SD43, Authority #432):</b> SD36
<b>Developed by:</b> Rob Tamboline and Krista Robinson	<b>Date Developed:</b> April 2, 2018
<b>School Name:</b> Earl Marriott & Panorama Ridge Secondary Schools	<b>Principal's Name:</b> Mike Jellema & Claudine Davies
<b>Superintendent Approval Date (for School Districts only):</b> April 6, 2018	<b>Superintendent Signature (for School Districts only)</b> 
<b>Board/Authority Approval Date:</b> June 20, 2018	<b>Board/Authority Chair Signature:</b>
<b>Course Name:</b> Glass Work 11	<b>Grade Level of Course</b> 11
<b>Number of Course Credits:</b> 4	<b>Number of Hours of Instruction:</b> 120

### Special Training, Facilities or Equipment Required:

Glasswork is a specialized course and should be taught by someone who has completed specific training related to working safely with glass, glass working tools and machinery. The facilities needed should include a well lit workshop space that is properly ventilated. Equipment required consists of, but is not limited to, glass kiln, gas bead torches metal surfaced workbenches for soldering, soldering irons, sandblaster, glass grinders, wet saw, glass cutters, grozier pliers, glass/tile nippers, exacto knives, etc.

### Course Synopsis:

Glasswork 11 provides opportunities for both novice and experienced participants to design and create projects using various glass working methods and mediums. Students will practice the design process, how to safely use and care for the facilities, tools and equipment, while learning the processes, procedures and the historical and cultural aspects of glass working.

## Goals and Rationale:

### Rationale:

Glasswork 11 will provide students with the opportunity to explore and express themselves using a durable, versatile and recyclable material that has been used since 1500 B.C. Glass is widely used for architectural embellishment and artistic expression, while engineers and industrial designers turn to glass products for resolving problems in industry. Students will use the design process to create artifacts with various glass related products through studying the foundational theory and practicing the basic skills related to measuring, cutting, shaping, forming and joining glass.

Students can learn to critically evaluate the appropriateness of the products they develop and those developed by others. As they explore the role of culture, including local Aboriginal cultures, they can develop a sense of personal and social appreciation for the products they create now and in the future.

Glasswork provides firm foundations for lifelong learning and, for some, specialized study and a diverse range of careers. It develops well-rounded citizens who are informed creators and consumers. It fosters the development of future innovators and skilled tradespeople/artisans who can enrich their lives, the lives of others, and the world around them.

### Goals:

The BC Applied Design, Skills, and Technologies curriculum contributes to students' development as educated citizens through the achievement of the following goals. Students are expected to

- acquire practical skills and knowledge that they can use to bring their ideas from conception to fruition
- develop a sense of efficacy and personal agency about their ability to participate as inventors, innovators, and agents of change to solve practical problems in a rapidly changing world
- explore how the values and beliefs of cultures, including local Aboriginal cultures, affect the development of products, services, and processes
- understand the environmental implications of the products they are designing and constructing
- investigate and actively explore a variety of areas, including aspects of Business Education, Home Economics, Information Technology, and Technology Education, and new and emerging fields, in order to develop practical hands-on skills and make informed decisions about pursuing specialized interests for personal enjoyment or careers
- develop a lifelong interest in designing, making, and evaluating products, services, and processes, and contributing through informed citizenship, volunteer work, or their careers, to finding and solving practical problems

## **Aboriginal Worldviews and Perspectives:**

### Declaration of First Peoples Principles of Learning:

- Artistic and creative outlets support the well-being of the self, the family, the community, the land, the spirits, and the ancestors.
- Glasswork and learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place).
- Working with glass results in students recognizing the consequences of one's actions.
- Knowledge is an adaptable, dynamic system based on skills, abilities, and problem-solving techniques that change over time
- Practical, hands-on, learning-by-doing, and demonstrations are the principal methods of instruction and the sharing of knowledge
- Working with glass involves patience, time and practice.

### Declaration of Aboriginal Worldviews and Perspectives:

- Experiential learning
- The Power of Story
- Traditional Teaching
- Community Involvement: Process & Protocols
- A Positive, Learner-Centred Approach

**BIG IDEAS**

Creative growth requires patience, readiness to take risks, and willingness to try new approaches.

Art provides a unique way to represent self, identity and cultural expression.

Personal design interests require the evaluation and refinement of skills.

Shared experiences create community and nurture relationships with others.

Complex tasks require sequencing of skills, different technologies and tools at different stages.

**Learning Standards**

Curricular Competencies	Content
<p><i>Students are expected to do the following:</i></p> <p><b><u>Applied Design</u></b></p> <p><b>Understanding context</b></p> <ul style="list-style-type: none"> <li>Conduct <b>user-centred research</b> to understand design opportunities and barriers</li> </ul> <p><b>Defining</b></p> <ul style="list-style-type: none"> <li>Identify potential users, intended impact, and possible unintended negative consequences</li> <li>Choose a design opportunity appropriate for the medium being explored</li> </ul> <p><b>Ideating</b></p> <ul style="list-style-type: none"> <li>Generate ideas to create a range of possibilities and add to others' ideas in ways that create additional possibilities</li> <li>Critically analyze how competing social, ethical, and sustainability considerations impact designed solutions to meet global needs for preferred futures</li> <li>Prioritize ideas for prototyping and designing following principles of good design</li> </ul> <p><b>Prototyping</b></p> <ul style="list-style-type: none"> <li>Identify and use a variety of <b>sources of inspiration</b> and <b>information</b></li> <li>Choose an appropriate form, scale, and level of detail for prototyping, and plan procedures for prototyping multiple ideas</li> <li>Analyze the <b>design for life cycle</b></li> </ul>	<p><i>Students are expected to know the following:</i></p> <ul style="list-style-type: none"> <li>safe use and maintenance of <b>power</b> and <b>non-power</b> tools</li> <li><b>traditional and modern</b> techniques related to working with glass</li> <li>use the <b>elements and principles of design</b> to create good compositions</li> <li>develop full scale patterns from iterations</li> <li>layout and use of materials</li> <li>select appropriate <b>materials</b> for the <b>application</b></li> <li>various methods for <b>assembling</b> glass and other materials into a final artifact</li> </ul>

- Construct prototypes, making changes to tools, materials, and procedures as needed
- Record **iterations** of prototyping

### Testing

- Identify feedback most needed and possible **sources of that feedback**
- Gather feedback from users over time to critically evaluate their design and make changes to product design or processes
- Iterate the prototype or abandon the design idea

### Making

- Identify appropriate tools, technologies, materials, processes, **potential funding sources**, and time needed for production, and where/how these could be available
- Use project management processes when working individually or collaboratively to coordinate production

### Sharing

- **Share** their progress while making to increase feedback, collaboration, and, if applicable, marketing
- Critically evaluate their design thinking and processes, and their ability to work effectively both as individuals and collaboratively in a group, including the ability to implement project management processes
- Identify new design issues, including how they or others might build on their concept

### Applied Skills

- Demonstrate an awareness of safety issues for themselves, co-workers, and users in both physical and digital environments
- Identify and evaluate their skills and skill levels, in relation to their project or design interests, and develop specific plans to learn or refine their skills over time

### Applied Technologies

- Explore existing, new, and emerging tools, **technologies**, and systems and evaluate their suitability for their design interests
- Analyze the role and impact of technologies in societal change, and the personal, social, and environmental impacts, including unintended negative consequences, of their choices of technology use
- Analyze how cultural beliefs, values, and ethical positions affect the development and use of technologies

## Curricular Competencies – Elaborations

- **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
- **Defining:** setting parameters
- **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
- **Information:** for example, other people as experts (e.g., First Peoples Elders), secondary sources, collective pools of knowledge in communities, collaborative atmospheres
- **Design for life cycle:** 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 that feedback:** may include peers; users; keepers of traditional cultural knowledge and approaches, including those of First Peoples; and other experts
- **Potential funding sources:** It is not the intent, and not appropriate, for students to have to raise funds in order to complete their school project. Students may, however, wish to investigate sources of funding for the commercial development of their products.
- **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
- **Technologies:** things that extend human capabilities

## Content – Elaborations

- **Power:** glass grinder with fence, diamond tip cutter for drilling, glass kiln, pyrometer thermometer, vinyl cutter
- **Non-power:** came cutters, lathekins, flat and grooved marvers, rakes, slumping forms, reamers, mashers
- **Traditional and modern:** chemical etching, copper/zinc/brass came, fusing and slumping, lampworking jewelry
- **Elements and principles of design:** balance and proportion, unity, color theory
- **Materials for application:** glass tile for mosaics, marietti glass rod for stringers, float glass, hydrochloric acid for etching, System 96 fusing glass
- **Assembling:** using jigs to hold came while fitting glass for soldering, indirect method mosaic, glass in concrete, application of stringers for bead decoration, multi-depth etching with vinyl patterns, creating glass stacks and designs for fusing

## Recommended Instructional Components:

- Direct Instruction
- Demonstrations
- Modeling
- Peer Teaching
- Experiential Learning
- Self-reflection and evaluation

## Recommended Assessment Components: Ensure alignment with the [Principles of Quality Assessment](#)

This BAA course is built on a foundation that focuses on the learning process and provides multiple opportunities for students to demonstrate their learning. It consists of both formative and summative assessment.

### FORMATIVE ASSESSMENT

Students and teachers will engage in a process of gathering, interpreting and responding to evidence of learning.

#### Students will answer these questions on an ongoing basis:

- What am I learning?
- Why is it important?
- How am I doing?
- How do I know?
- What are my next steps?

#### The teacher will:

- Clarify learning intentions
- Generate and provide clear success criteria in student-friendly language
- Frame and solicit meaningful open-ended questions that lead to deeper understanding of the learning intentions
- Provide ongoing feedback
- Provide opportunities for ongoing self and peer assessment

### SUMMATIVE ASSESSMENT

Students will complete performance-based tasks connected to curricular competencies and content.

Evaluation of these tasks will be reserved for those occasions when a snapshot of student performance/achievement is required or necessary.

The evidence gathered will be used to communicate student learning and provide evaluative feedback.

## Learning Resources:

### Books:

- *Stained Glass For The First Time*, by Art Glass Originals, 2004
- *How to Work in Stained Glass*, Isenberg, Krause Publications, 1998
- *Stained Glass For The First Time*, Sterling Publishing, 2000
- *Stained Glass Techniques and Projects*, by Mary Shanahan, 2001
- *Stained Glass*, Pere Valldeperez, Barron's Educational Series, 2001
- *Glass Craft*, Kay Kinney, Chilton Book Corporation
- *Mosaic Techniques*, by Bonnie Fitzgerald, 2015
- *Engraving Glass: A Beginner's Guide*, by Boyd Graham, 2012
- *The Complete Book of Glass Beadmaking* by [Kimberley Adams](#), 2010

### DVD's:

- *Essential Beadmaking DVD*, Delphi Glass

### Websites:

- [www.bullseyeglass.com](http://www.bullseyeglass.com)
- [www.spectrumglass.com](http://www.spectrumglass.com)
- [www.dummies.com/crafts/stained-glass-for-dummies-cheat-sheet/](http://www.dummies.com/crafts/stained-glass-for-dummies-cheat-sheet/)
- [www.konaglasslessons.com](http://www.konaglasslessons.com)