
AWD 3M Visual Design

Senior Course Outline

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Resource to Support the 2010 Revised Ontario Arts Curriculum Policy Documents

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Course Description

Students will be introduced to the “real world, commercial aspects” of being an artist for mass production or personal sales. In this unit, students will investigate and analyze the differences between public and personal art through reflection, community connections and global perspectives, instructor presentations, research opportunities, the development and creation of tessellations, letterhead graphics, fashion and jewelry design aimed at a specific market (public or personal). Students will use the creative process with specific emphasis placed upon artistic tools for visual planning, specifically the sketchbook / journal.

Unit #1 “Tessellations” (Approximately 40 hours)

Unit #2 “Logos, Letterheads and Branding” (Approximately 30 hours)

Unit #3: “Fashion Design: Synesthesia” (Fashion inspired by Music) (Approximately 25 hours)

Unit #4: “Jewels For Justice” Personal & Commercial Jewelry Design, Show & Sale (Approximately 25 hours)

Unit 1 Description (Approximately 40 hours)**Unit #1****“Tessellations”**

As they are introduced to “Tessellations” and patterns, students will discover that they are used in numerous “public” (e.g. a community centre’s driveway, a park’s sidewalks) and “personal” art applications (e.g. links in a necklace, a tiled backsplash in the kitchen). Students will also explore the important, real world aspects of art through class / studio presentations by instructor and / or students. As they progress, students will develop skills and greater understandings of their creative and critical analysis processes as they create numerous works employing basic and more advanced approaches to tessellations. After this process stage, students will explore 3 dimensional applications of their previously created 2 dimensional tessellation pieces. After discussion of what makes a good application, students will determine an appropriate site where their low relief tessellations will be installed in an actual location and recorded as video or photographs and / or rendered as an “artist’s concept” illustration.

Students will further their understanding of how specialized knowledge (such as this mathematical concept of tessellations) is informed and/or influenced by research, experimentation and an understanding of commercial markets and custom applications. These concepts will be summarized as entries in students’ sketchbook / journal after instructor led discussions, research opportunities and small group activities.

Overall and Specific Expectations

A1, B3, C2, A1.1, A1.2, A3.1, A3.2, B1.3, C1.1, C1.3, C2.1

A1 Apply the creative process to create a variety of art works, individually and/or collaboratively

B3 Describe opportunities and requirements for continued engagement in visual arts

C2 Demonstrate an understanding of conventions and techniques used in the creation of visual art works

Specific Expectations

A1.1 Use various strategies, individually and/or collaboratively, to generate, explore, and elaborate on ideas to develop and revise detailed plans for the creation of art works that address a variety of creative challenges

A1.2 Apply the appropriate stages of the creative process to produce and revise two- and three-dimensional art works using a variety of traditional and contemporary

A3.1 Explore and experiment with media, including alternative media, and current technologies, and use them to create a variety of art works

A3.2 Explore a range of traditional and current materials, technologies, techniques, and tools used by visual artists

B1.3 Explain, with reference to particular works, both historical and contemporary, how knowledge of an art work's cultural and historical context, achieved through research, has clarified and enriched their understanding of the work's intent and meaning

C1.1 Demonstrate an understanding of the elements and principles of design, and use terminology related to these elements and principles correctly and appropriately when creating or analysing art works

C1.3 Using appropriate terminology, explain the creative process and describe in detail the critical analysis process, with particular reference to the role of deconstruction in the latter process

C2.1 Demonstrate an understanding of a wide variety of techniques that artist use to achieve a range of specific effects

Learning Goals:

By the end of this unit students will be able to:

- demonstrate understanding of the elements and principles of design.
- demonstrate an ability to create and analyze original, tessellation pattern designs using personally selected, available media
- apply creative process in the creation of original, tessellating patterns;
- demonstrate understanding of a public or personal application of tessellations as they create a low relief model of one of their own tessellations and mass produce the piece enough to create a "location illustration".
- apply effective studio and theory presentation decisions by documenting their "location application" in a selected medium (video, photography format or as an "artist's concept / presentation" drawing).
- demonstrate understanding of the necessity of design and how it impacts our daily lives (both functionally and aesthetically and "publicly and personally");

Key Questions:

1. How are elements and principles of design used to effectively create artwork?
2. How are tessellations used in the "public and personal" domains?
3. How have I used the stages of the creative process to inform and direct my design?
4. During the Creative Process, what key decisions changed your design and why do these stages "stick-out" for you?
5. What applications do tessellation and math have in the arts and beyond?
6. What conventions informed my work?
7. What conventions would I or did I "break" and why?
8. What cultures do we find have tessellation in their designs?
9. How does designing for oneself differ from designing for a "client" or for public use?
10. What is the relationship between form and function? Is it necessary to have both?
11. How will you integrate the course theme of Public versus Personal into an art piece that uses ornament? How can you use your chosen medium to represent this theme?

Instructional Strategies:

(A possible introduction:)

You're on your way to a local jeweler. As you pass it, you notice the community centre's driveway has been given a facelift with a beautiful pattern of bricks. It's your mother's birthday and you and your siblings have decided to get her a bracelet you know she will love. And, as usual, you make her a card she always says is her favourite.

In all parts of our day, we encounter "public" art like the "tessellated" brick driveway and mass production jewelry, and "personal" art like custom made jewelry and the card for your mother.

Lesson 1: What are "tessellations" about?

Time: 4 hours

(A possible introduction:)

On your daily walk to school, do you ever notice how some driveways have been made with bricks laid out in great, interconnecting patterns? Have you been challenged by a jigsaw puzzle? In addition to the challenge of the visual puzzle, there is a "fit together" challenge created by the puzzle pieces shapes themselves. "Had a chance to walk across an amazingly tiled floor? Did you notice a necklace that has really neat links?

Perhaps in your experience as an art student, you've seen some work by M.C. Escher and enjoyed how he puts all those things together!

The preceding are examples of the organizational systems of "patterning" applied to "tiling" and "tessellating" and have been a significant component of the visual and applied arts throughout all history.

The theme for this unit of study is "tessellation". Coming from Latin, "tessellation" is directly connected to "mosaics". A "tessella" is a small stone. Many of these "tessera" (the plural) were used to create mosaics. Tessera were the small units used in ways that include both public and personal applications (e.g. patterns in tiled floors, jewelry designs,

Prior Learning:

- Prior knowledge for this unit depends on the medium chosen by the student and availability of materials and options in the classroom. It is suggested that the unit focus on material arts such as paper, wood, traditional and / or contemporary mosaic, stained glass, ceramics.
- Prior knowledge of the elements and principles of design and the creative process would be an asset.
- Basic mathematics concepts should be reviewed or introduced as necessary for students to progress through the early stages of analyzing historical materials and examples of tessellations and as they begin their creative processes.

(This is a good opportunity to invite a Mathematics teacher in to share their expertise about tessellations while demonstrating a real-life, cooperative "team" of Math and Art.)

- Skills of precise measurement, positive/negative relationships, repetition, and grid patterning will require constant attention and review if necessary.
- A series of measurement and ruling demonstrations and experiences as needed would make these concepts more solid for students.

utensils decoration, images in landscapes, portraits, narratives...).

“Tesselations” are found in much of our public and personal design worlds. There is a rich history and tradition in tessellation that has informed numerous cultures.

Teacher will:

- introduce “tessellation” by assembling and exhibiting contemporary and historical art images and products (e.g “hardscaping” - the production of driveways and decks, patterns on clothing, link systems in jewellery design, for example) related to tessellation and artists who utilize these fascinating, beautiful, mathematical techniques of creating patterns.
- direct students to utilize their sketchbooks / journals to communicate their initial feelings and longer viewing time, thoughtful responses to each image to analyze visual details as they study the samples provided;
- exhibit images such as driveways, tiled floors, graphic design, the work of Escher, architecture, and jewellery all of which employ significant tessellation patterns, remembering to show how each would be in the “public” or “personal” realms;
- direct students to explore and analyze the elements and principles of design as exemplified in the works of M.C. Escher and other prominent designers (especially various times and cultures such as Egyptian, Persian, Byzantine, Arabian, Moresque, Indian, Hindu, Chinese, and the Middle Ages); document this in journal, notebook, sketchbook, digital software;
- require students to document “thinking beyond” by role modeling and including examples of other types of “pattern based” works (e.g. clothing, graphic design, photographs, grids on everyday items – radiator, brush, line of taxi cabs, a fan...);
- moderate a class / group discussions exploring students’ understandings based on their observations of “public and personal” tessellation application examples. In small groups, students will study, analyze, sketch and speculate how these patterns and tessellations are made;
- in small groups, after introductions and research opportunities, direct students to present collections of many “pattern and

Assessment for and of Learning:

Assessment & Evaluation Strategies

- checklists
- self / peer / teacher conferencing
- oral critiques – peer and instructor assessment
- written responses – self / peer and / or instructor assessment
- summative rubrics

Assessment Tools:

- Formative test prior to end of unit 2 (to provide feedback to students)
- Formative assessments (Progress notes, on going interaction in studio, student self-assessment);
- Formative assessment of the initial drawing processes (rough designs;
- Reflections and self-check lists to ensure the completion of task specific items;
- Creative Process rubric
- Visual journal/sketchbook
- Anecdotal Comments
- Essay/visual project/slideshow
- Rubrics: Summative evaluation (rubric) of tessellation drawing, 3-D model(s), and site specific illustration.

tessellation applications” found in “public and personal” arts work; In these small groups, determine the presentation format (e.g. hand made or digital montage using credited images from magazines, internet, posters, or digital media...);

- present the role that Alhambra played in Escher’s work and ask students to write a journal response to the question of “What can influence an artist’s ideas?” based on the Alhambra discussion

Resources:

A very useful website for tessellations:

<http://www.tessellations.org/index.htm>

the official Escher website:

<http://www.mcescher.com/>

(numerous “hardscape” companies have websites to assist with product lines, applications and price points)

Lesson 2: Creating “Tessellations”

Time: 3 hours

Teacher will

- introduce/review and demonstrate the basic drawing, mathematical and grid principles required to create tessellations;
- review and develop drawing/rendering skills related to line, shape, positive/negative space, pattern, repetition and symmetry; (Numerous lessons ideas are possible... *the focus is to create reliability and predictability of the line and its placement through accurate measurement and rendering.*);
- supply materials and exercises/ opportunities to develop abilities with rendered, measured and ruled line work for this unit; (e.g. orthographic drawing; a unit introducing linear perspective; take measurements of the chair you are seated in – on graph paper, sketch it out to scale with measurement notes; create parallel and predetermined angled lines using various “technical” tools such as set squares, rules, t-squares, curves and equivalents in digital media ...);
- administer an Early Unit Test / Task;

Performance Tasks for Evaluation:

The student will:

1. demonstrate his/her knowledge and understanding of the elements and principles of design and “tessellations” through a quiz and small group presentations.
-formative assessment
2. submit an illustrated discussion of the elements and principles of design as exemplified in the works of M.C. Escher and other prominent designers (select from various times and cultures such as Egyptian, Persian, Byzantine, Arabian, Moresque, Indian, Hindu, Chinese, and the Middle Ages); use journal, notebook, sketchbook, graphic.
-formative assessment
3. in a small group, determine the presentation format of a “pattern and tessellation applications collection” (e.g. hand made or digital montage using credited images from magazines, internet, posters, graphics, design periodicals...).
-formative assessment
4. create and render (using appropriate, selected media) 3 original tessellations of progressive complexity.
- summative assessment
5. present a journal entry discussing the role that Alhambra played in Escher’s work and commenting on how a similar experience / interest can influence one’s own artwork.
-formative assessment of and for learning
6. create thumbnail drawings and maquettes of their 3D concepts; to be reviewed by peer(s) and instructor using a co-created set of assessment parameters;
-formative assessment
7. develop and present a 3 dimensional tessellation based on one of their original 2 dimensional tessellation designs;
- summative assessment
8. determine, through research, demonstrations, exploration and the critical process, a site application of one original tessellation; (documented in notebook, sketchbook / journal)
-formative assessment
9. - create an “artist’s concept” illustration of this site specific application using personally selected, available media (by hand and / or digital imaging)

To determine the students' comprehension of the introductory lessons in this unit, teachers could include a quiz or task which students would assess to become aware of their own progress on the unit concepts and understandings of the elements and principles of design.

See
appendix_AWD3M_BLM_K.Barbro_Escher_tessellations

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Instruction, evaluation and the learning environment based on curriculum expectations **and** the specific learning needs of the students in class.

Provide choices as appropriate to learn and / or demonstrate learning.

Engage multi-intelligence approaches... this can be done by creating centres and experiences including all centres for all.

Lesson 3: Further exploration of "Tessellations"

Time: 2 hours

Teacher will

- organize students into small groups
- show an image such as Escher's *Regular Division of the Plane III*, woodcut, 1957 – 1958 or *Metamorphosis II*, 1939 - 1940. Woodcut (and other images that shows tessellations)
- instruct students to study the image;
- guide students through the analysis process by asking the following key questions:
 - What are your initial responses to the images?
 - Objectively describe what you see in the image?
 - (Perception)
 - Is there a title? What effect does titling have on a viewer's response(s)?
 - What do you see that informs your understanding of the image?
 - (Description)
 - What visual building blocks from the Elements and Principles of Design are important to this scene? Why?
 - To where are eyes drawn in this image? Why?
 - (Emphasis) (Analysis)
 - How is this image like "wrapping paper"?
 - What is the artist communicating? What is the "story" being told? What do you think it might mean?
 - After researching the artist and the work, does your interpretation stay the same?
 - (Interpretation)

Does this image still have meaning today?

(Judgment);

- record student responses (on board, paper, digital document) and have students record in sketchbooks / journals.

- direct students to write a reflection on the impact and purpose of this image, explaining your position to your group.

- ask students to think about and document their thoughts in response to “Why do you think work this fascinated Escher? What did Escher say about his work?”

See appendix_AWD3M 1-3 BLM Escher on Math and tessellations

Extensions

1.

Thinking About *Landscape and Environmental Design*

Students will submit an illustrated report on:

1. “landscape / environmental design” and related careers and required education and abilities;
2. examples of “public” and “personal” landscaping applications
3. “price quotes and practical concerns of (such) a project” and a statement about how these factors effect design.

See possible websites for “hardscaping” contractors, landscape architecture, landscape design...):

see: <http://www.drivewaytips.com/costsomuc.html#pavers-bricks>
<http://www.belgard.biz/index.htm>

Lesson 4: Creating the tessellations in 2 dimensions

Time: 8 hours

Teacher will

- reinforce (through class, small group or paired discussions) the process of creating tessellations; In a small groups, provide time for students to playfully explore filling in a small area using a *mix* of available items like pencils, erasers, paper clips, Lego pieces, marbles, etc. As this proceeds, challenge students to create regular patterns with their main objects filling in “negative spaces” using only one of the other items. Students will make entries in sketchbooks as these are created.
- provide opportunities (through a combination of lectures, note taking opportunities, demonstrations, exemplars, research time, and individual and group work documented in sketchbooks) for students to experience and practice the conventions of tessellations and patterning;
- require students to create and render a number of original tessellations (2 or 3 creations of progressive complexity appropriate for each student). Students will use a range and choice of materials (determined by availability and students’ experiences), research opportunities and creative process strategies to create their tessellations.
- introduce and / or support as necessary, the rendering decisions of these tessellations (e.g. gouache on illustration board, digital drawing software like Adobe Illustrator);
- direct continuous self, peer, and instructor assessments to establish success of their tessellations as they move through the creative process;
- encourage the development of progressively more challenging tessellations (paying attention to and supporting individual abilities, providing differentiated instruction as needed);

Lesson 5: Creating 3 Dimensional maguette tessellations

Time: 10 hours

2. Visual Relationships

Present a drawing unit that focuses on relationships within a plane - great for visual judgement abilities development, drawing skills and concepts, and using visual geometric relationships as inspiration (in addition to musical or verbal starting points) as a place to begin ideas. “Explore a plane by bisecting it and finding a relationship by doing....” (e.g. Draw lines from corner to corner creating an X; if both lines are accurate, this intersection of lines represents the middle of the square plane; divide the square in half across the middle with a light line; divide each of those in half; where these intersect with the X lines, draw light, vertical lines joining those points, and so on...)

NOTE 1: This moves wonderfully into using squares as a base for triangles, circles, ellipses...and into playing with mathematical relationships in other visual ways...

“THE GOLDEN SECTION” and others!

NOTE 2: This kind of scaffolding you would be role-modeling contributes to bettered understandings, creativity, connections and problem solving abilities.

- - The use of skill specific tools may need to be addressed (various rulers, templates, materials related to 3-D design, implementing possible software applications to design in the digital realm).
- The study and creation of “tessellations” represents a good jump point for exploring the “division of a plane”. Encourage the “fun” of it....

Teacher will

- instruct and demonstrate techniques involved in the creation of low relief tessellations and in determining personally chosen, effective, and available media (may include heavy weight paper stock, clay, floor tiles, wood...).
- A critical material choice consideration will be the ability to reproduce the tessellation motifs enough times to provide a visual idea of the application. This probably requires more than 10 pieces of each component.
- explain the need and demonstrate how to “mass produce” the motifs accurately;
- guide students in determining the usefulness of designing simpler motifs since complex cutting and assemblage is not easy to keep consistent;
- present support materials such as anchor charts to provide process and modeling cues;
- direct students to create thumbnail drawings and maquettes of their 3D concepts to be reviewed by peer(s) and instructor;
- support students as they move through the creative and critical processes as they develop and present a 3 dimensional tessellation based on one of their original 2 dimensional tessellation designs;
- co-create standardized, success criteria with students to help assess effectiveness of these thumbnails, maquettes and 3D tessellations;
- require students to submit this assessment summary of their project along with the actual work;

Lesson 6: Environmental Design: careers and education

Time: 2 hours

Teacher will

- direct students to submit a report on “landscape / environmental design” careers and required education as a complement to this exploration of tessellations;

Lesson 7: Reflective Response Process

Time: 1 hour

Teacher will

3.

Careers Exploration:

- provide opportunities and guidance for students to explore “landscape and environmental design” careers and their post-secondary opportunities and requirements (e.g. teacher explanations and examples, a professional landscaper as a guest speaker, a post-secondary “landscape and environmental design” institution representative);

4.

Thinking and doing more:

- require each student from every group to present their own written and illustrated paper explaining their discoveries about tessellations, in general, and their responses to their own experiences with this patterning approach.
- direct groups to come to a collective agreement of the major traits which could be used to evaluate the work; submit a copy to the instructor to assess and provide a response; copies of all posted for review by class;

- design and have students complete a series of questions that ask students to Reflect on their Creative Process in this unit thus far. Suggestions: reinforce major unit concepts, the creative and critical processes, and thinking “beyond” (e.g. “What else could be done with this?” “For what might “tessellations” be a symbol? Why? Propose a way an artist might use this symbolic connection.”)

Lesson 8: Developing the tessellations application (Optional Extention)

Time: 10 hours

Teacher will

- present an review of tessellation applications and then, after presenting several examples of and explaining “artist’s concept renderings”, initiate small group research opportunities and discussions of “tessellation applications” and “artist’s concept renderings”;
- direct students to include examples of “artist’s concepts” and comments about them in sketchbook / journals;
- require students to create a series of preliminary sketches for an assigned “artist’s concept illustration” based on a selected (personally with instructor assistance to ensure that it is not too big a workload and will cover basic topics of artist’s concept renderings)
- direct students to develop the tessellation ideas in their sketchbooks, propose and illustrate a site application of their tessellation (after research, exploration and the critical and creative processes); use journal / sketchbook and determine illustration format (e.g. selected media on illustration board, digital illustration software) to communicate these concepts.

Lesson 9: Presenting the tessellations application (Optional Extention)

Time: 6 hours

Teacher will:

- co-construct assessment criteria with the students so that they are familiar with

Support Materials & Resources

- *Math Vantage: I, Patterns, Tessellations, Transformations.*
DVD. GPN Educational Media, 1992.
- Eric Gjerde. *Origami Tessellations.*
A K Peters, 2009.
- *Tessellations: How to Create Them.*
Crystal Productions. DVD/CD-ROM.
- Rik McGuinness. *Math Enrichment: Activities for Space, Measurement and Number.*
Rowley, Ma.: World Teachers Press, 1999.
- E.R. Ranucci. *Creating Escher-type Drawings.*
Palo Alto, California: Creative Publications, 1977.
- Christine Porter. *Tessellation Quilts: Sensational Quilts from Interlocking Patterns.*
Newton Abbot, UK: F&W Publications, 2006.

requirements. These should be posted in the studio/classroom for the start of this lesson.

- prepare a summative evaluation of the students' submissions; include the requirements to use a range and choice of materials and the critical and creative process strategies to create a portfolio of work based on tessellation concepts;
- prepare a summative evaluation to accompany individual interviews of each student's "site specific application of the selected tessellation using personally selected media (hand and / or digital imaging)";
- require students to explain (in an artist's statement) the inspiration and application of the original tessellation and how his/her chosen application of tessellations fits the course theme of "Public versus Personal";

Lesson 10: The Sketchbook / journal (Optional Extension)

Time: 3 hours

Teacher will:

- require sketchbooks for this unit to be submitted for evaluation (instructor may create a rubric for self-evaluation, peer and instructor evaluation). Students developmental work in their sketchbooks should include all aspects of idea development, inspirations, research and creative process.
- have students in sketchbooks / journals, define what makes "good tessellations". This discussion could be finalized in small group activity with note-taking and then be presented to the entire class where each group will see commonalities and variations.
- direct groups to alter their responses as they discover any useful traits from other groups presentations.

Appendix AWD3M 1.3 BLM

On Escher and tessellations...

"For me it remains an open question whether [this work] pertains to the realm of mathematics or to that of art."

– M.C. Escher

Regular divisions of the plane, called "tessellations," are arrangements of closed shapes that completely cover the plane without overlapping and without leaving gaps. Typically, the shapes making up a tessellation are polygons or similar regular shapes, such as the square tiles often used on floors. Escher, however, was fascinated by every kind of tessellation – regular and irregular – and took special delight in what he called "metamorphoses," in which the shapes changed and interacted with each other, and sometimes even broke free of the plane itself.

His interest began in 1936, when he traveled to Spain and viewed the tile patterns used in the Alhambra. He spent many days sketching these tilings, and later claimed that this "was the richest source of inspiration that I have ever tapped." In 1957 he wrote an essay on tessellations, in which he remarked:

In mathematical quarters, the regular division of the plane has been considered theoretically . . . Does this mean that it is an exclusively mathematical question? In my opinion, it does not. [Mathematicians] have opened the gate leading to an extensive domain, but they have not entered this domain themselves. By their very nature they are more interested in the way in which the gate is opened than in the garden lying behind it.

<http://www.mathacademy.com/pr/minitext/escher/>

Sample images:

Self-portrait

Alhambra studies

Glossary

artist's concept:

a visual presentation of an artist's idea; often used to present an visual idea to a client; (e.g. an interior designer's drawing of a proposal for a client's new kitchen, a landscaper's rendering of a proposal for a driveway and gardens)

hardscaping:

similar to "landscaping" but here the focus is on the design and installation of masonry & landscaping projects including irrigation, lighting, interlock pavers, retaining walls, ponds, fountains, and outdoor fireplaces, etc.

interdisciplinary studies:

Pronunciation: \-'di-sə-plə-,ner-ē\

Function: *adjective*

: involving two or more academic, scientific, and/or artistic disciplines

(from: <http://www.merriam-webster.com/dictionary/interdisciplinary>)

tessellation:

Pronunciation: \,te-sə-'lā-shən\

Function: *noun*

: a covering of an infinite geometric plane without gaps or overlaps by congruent plane figures of one type or a few types

(from: <http://www.merriam-webster.com/dictionary/tessellation>)

symmetry:

Pronunciation: \'si-mə-trē\

Function: *noun*

: balanced proportions; *also* : beauty of form arising from balanced proportions

: the property of being symmetrical; *especially* : correspondence in size, shape, and relative position of parts on opposite sides of a dividing line or median plane or about a center or axis — compare [bilateral symmetry](#), [radial symmetry](#)

(from: <http://www.merriam-webster.com/dictionary/symmetry>)

“*sym*” – same; “*metri*” – as in metric; meaning measure; Therefore, symmetry refers to “somethings that have the same measure. For example, a face, bisected top to bottom, is pretty much the same on both sides. If something is exactly the same, it is “mirror” symmetry.

Unit 2 Description Logos, Letterheads and Branding (Approximately 30 hours)

In this unit, students will also be introduced to business and marketing as important influences on a designer's work. Students will become familiar with the use of "logos, letterheads and branding" in "public" and "personal" situations.

Branding has been considered primarily a business or "public" application of design. However, branding is becoming important in personal applications. "Branding used to be for products, and more recently has been used by celebrities and private individuals for self-promotion and creating identity. Now, it is something ordinary people use."

"Peter York traces the roots of a phenomenon that goes back to Dale Carnegie via Margaret Thatcher ..." (Peter York, "How Marketing Got Under Our Skin", (INTELLIGENT LIFE Magazine, Autumn 2009.)

While learning about this unique aspect of graphic design, students will explore the career path of a "graphic designer" working in the branding field.

In the studio, students will create numerous works demonstrating and employing basic and more advanced approaches to the creation of logos, letterheads and branding. Students will use the critical analysis process to make decisions about the specific qualities (their graphic design will take according to an analysis of a demographic study of their selected business and its target market. These brand graphics will be presented through the design of a cohesive suite of logo, business card, letterhead and envelope, and one other application to be selected by the student.

In a small group, students will analyze what qualities and criteria contribute to successful logo and letterhead design. Each student will submit a personal report summarizing and illustrating these criteria.

Overall and Specific Expectations**Overall and Specific Expectations**

A1, A2, A3, B1, B3, C2, A1.1, A1.2, A1.3, A3.1, A3.2, A3.3, B1.2, B1.3, B3.1, C2.1, C2.2.

A1 Apply the creative process to create a variety of art works, individually and/or collaboratively

A2 Apply the elements and principles of design to create art works for the purpose of self-expression and to communicate ideas, information, and/or messages

A3 Produce art works, using a variety of media/materials and traditional and emerging technologies, tools, and techniques, and demonstrate an understanding of a variety of ways of presenting their works and the works of others

B1 Demonstrate an understanding of the critical analysis process by examining, interpreting, evaluating, and reflecting on various art works

B3 Describe opportunities and requirements for continued engagement in visual arts

C2 Demonstrate an understanding of conventions and techniques used in the creation of visual art works

Learning Goals:**Learning Goals**

By the end of this unit students will be able to:

- demonstrate understanding of the elements and principles of design
- demonstrate understanding of the elements and principles of design applied to branding graphics for the purpose of communicating ideas, and brand information.
- apply and demonstrate understanding of the creative process in relation to the creation of logos, letterheads and other branding applications.
- demonstrate an understanding of the ways and reasons that humans use graphic design for branding.
- demonstrate ability to make effective studio and theory presentation decisions.

Specific Expectations

A1.1 Use various strategies, individually and/or collaboratively, to generate, explore, and elaborate on ideas to develop and revise detailed plans for the creation of art works that address a variety of creative challenges

A1.2 Apply the appropriate stages of the creative process to produce and revise two- and three-dimensional art works using a variety of traditional and contemporary

A1.3 Document their use of each stage of the creative process, as well as varied and extensive research, in a portfolio that includes art works created for a variety of purposes, and review and reflect on the contents of their portfolio to determine how effectively they have used the creative process

A3.1 Explore and experiment with media, including alternative media, and current technologies, and use them to create a variety of art works

A3.2 Explore a range of traditional and current materials, technologies, techniques, and tools used by visual artists

A3.3 Describe appropriate standards and conventions for the presentation of different types of visual art works, and apply these standards and conventions when preparing their art works for presentation

B1.2 Deconstruct the visual content and the use of the elements and principles of design in their own art work and the work of others

B1.3 Explain, with reference to particular works, both historical and contemporary, how knowledge of an art work's cultural and historical context, achieved through research, has clarified and enriched their understanding of the work's intent and meaning

B3.1 Identify a variety of careers in fields related to visual arts

C2.1 Demonstrate an understanding of a wide variety of techniques that artist use to achieve a range of specific effects

C2.2 Demonstrate an understanding of a variety of conventions used in visual arts

- engage in the process of creation (with special attention being given to the development, exploration and revision of design concepts in the stages of development);

· reflect upon, dialogue about, and demonstrate the necessity of branding design and how it impacts our daily lives (both “functionally and aesthetically” and in relation to the theme of “public and personal”);

· identify the skills required by artists who use digital media;

· be able to identify different ways and reasons why humans use branding and branding applications;

· understand the skills and education required by for graphic design.

Key Questions:

1. How are elements and principles of design used in this design challenge?
2. How are logos, letterheads and other branding applications used in the “public and personal” domains?
3. How have I used the stages of the creative process to inform and direct my designs?
4. Where were key decisions made and why do these stages “stand out” for me?
5. What applications do logos have in the arts and beyond?
6. What conventions informed my work?
7. What conventions would I or did I “break” and why?

Instructional Strategies:

(A possible introduction:)

What do the following have in common? Nike, McDonald's, Tim Horton's, The CN Tower, Coca-Cola, Ontario Hydro, My next door neighbour's snow shoveling business, A 20 something's "personal card" card passed out when meeting new people.

From the very well known international corporations to the very local snow shoveling business of the next door neighbour teenager, an "identity or brand" is often a very important matter.

Establishing a personal or business identity is a common need in our society. As we move more through life, we notice numerous ways that people, groups and businesses establish and use their "brand identity". Whether on a running shoe, on the side of a bus, in a magazine, on a web page, or on a business card you've just received, "public and personal identity" and the need to communicate with many people has brought the graphic design world of logos, letterheads and branding to everyone, everyday.

This design discipline is a significant part of the "Public and Personal" Art worlds with applications in personal situations (e.g. a personal card) and public worlds (e.g. business card).

Lesson 1: What are "logos, letterheads and branding" about? How are they "public or private?"

Time: 2 hours

Teacher will:

- Introduce the concept of logo by asking the class questions like:

"Where do you see logos in this room?"

(backpacks, clothing, pencils, erasers, computers...various products etc.)

"Why are logos necessary?"

"Why can logos be controversial?"

"What would you think is the most famous logo in the world?"

"Why do you think that?"

"What makes a good logo?"

- assemble and show contemporary and historical examples of logos, letterheads and branding applications;
- lead a discussion about the conventions of logos, trademarks, letterhead design and other branding applications.
- direct students to take notes, make comments and ask questions during this lesson;
- co-construct criteria for what makes a successful logo design
- initiate a discussion to develop an understanding of the purpose of the logo (to inform, to persuade, to sell) in graphic design;

8. What cultures use logos, letterheads and other branding applications in their designs?
9. How does designing for personal use differ from designing for public use?
10. What is the relationship between form and function in relation in logo design? Is it necessary to have both?
11. How does the work of a "graphic designer" differ from a "visual artists"? What similarities exist? Is one more or less important than the other? What training, experiences and "products" are representative of each?
12. How does the course theme of "Public versus Personal" inform your understanding of logos, letterheads and other branding applications?
13. What possible careers can be found graphic design and how does one prepare for them?

Prior Learning:

- Prior knowledge for this unit depends on the medium chosen by the student and availability of materials and options in the classroom. It is suggested that the unit focus on material arts such as paper, wood, traditional and / or contemporary mosaic, stained glass, ceramics.
- Prior knowledge of the elements and principles of design and the creative process would be assets.
- Experience working with type faces and icons should be assessed prior to this unit of study (see AWD 2O units 1 & 2).
- Basic knowledge and utilization of media, artists tools and/or software (some students may elect to work with the digital media but should be directed to employ their effective creative and critical processes).

- direct students to make entries in their sketchbooks as they encounter lesson concepts, relevancies, questions, research results, brainstorm, examples, and creative connections...

Lesson 2: Introducing “Logotypes”

Time: 4 hours

Teacher will:

- select and show key examples of logo designs and lead a discussion about their meanings, use of elements and principles of design, typography, symbolism;
(This is also a great time to highlight the role of research and “getting into something deeper” so that one’s work can continue to grow “deeper”, “broader”, effectively.)
- address the role of the elements and principles of design decisions;
- share the definition and etymology of the word “logo”;
- present key features of logotype design;
- provide examples and opportunity for students to explore “simplification” of imagery;
- require students to create several image “simplification variations” of some assigned and chosen concepts (e.g. “car”, “owl”, “bus”); develop in sketchbook / journal, digital software, post on a theme wall...
- direct students to suggest and apply, for each selected term, a font which has some connections to the term and to provide several statements about their choices; develop in sketchbook / journal, digital software, post on a theme wall...
- provide individual opportunity to explore and document the important role of idea and symbolism through class discussions, demonstrations and directed research (library, internet, periodicals...);
- require a submission (or presentation) of a collection of visual examples of “branding and branding applications” to be posted on a “logos, letterheads and branding” theme wall.
(Remind students that the posters require decisions about layout, type use, centre of interest, balance, etc., just like any design product does!)
- encourage class discussion by asking “In this digital age, do logo design and branding have a greater or lesser role in public and personal realms?”
- present the required skill sets and educational requirements of graphic design professionals;
- require sketchbook explorations and a formative quiz to assess comprehension of key concepts
(e.g. idea relates to symbol, abstraction, development of ideas / images, “graphic design” strategies, analysis of existing logotypes)

Assessment for and of Learning:

Assessment & Evaluation Strategies

- checklists
- self / peer / teacher conferencing
- oral critiques – peer and instructor assessment
- written responses – self / peer and / or instructor assessment
- summative rubrics

Assessment Tools:

- Formative test prior to end of unit 2 (to provide feedback to students and instructor)
- Formative assessments (progress notes, regular interaction in studio, student self-assessment)
- Formative assessment of the initial drawing processes (rough designs)
- Reflections and self-check lists to ensure the completion of task specific items
- Creative Process rubric
- Visual journal/sketchbook
- Anecdotal Comments
- Essay/visual project/slideshow
- Testing: formative and summative
- Rubrics: Summative evaluation (rubric) of logos and branding applications

Lesson 3: Creating logotypes*Time: 4 hours*

Teachers will:

- supply materials and exercises/opportunities to support students as they explore and develop work for this unit;
- demonstrate and discuss possible approaches for designing logos; (such as concept and verbal connections, simplification, symbolic imagery, the role of type, the use of negative space, colour, the role of demographics...);
- direct an exercise where individual students are given the name of a business and its product or service. Students will then brainstorm and sketch 5 to 10 thumbnails of possible logos;
- direct small groups to determine one logo design based on each group member's own thumbnails, render that logo (paper and / or digital); *note: "The opportunity to render both "by hand" and "digital media" offers great experience and understandings for students.*
- provide an opportunity for all groups to exhibit and peer-assess their logo designs;

All class members would be provided with a guideline which allows for a sketch of the logo, a list of the group members creating the logo, and space to note what they feel is the meaning and any critiques of the logo *before and as* it is explained by its creative team.

Lesson 4: Designing a logotype for a selected business*Time: 5 hours*

Teacher will:

- supply materials and exercises/opportunities to support students as they explore and develop work for this unit;
- direct students to create a logo for a selected business by fully employing the critical analysis and creative processes;
- co –create a set of success criteria for the creation of a logo;
- require each students to submit their rendered logo including both colour and black and white versions ("hand" or using digital software like Adobe Illustrator and In Design or Corel Draw...). Size, colour, output limitations will vary by school.
- require these designs be presented as a "mock ups" on (available) hard card stock like illustration board (including 1 full colour logo, 1 Black and white logo, 1 business card, 1 letterhead, 1 "application" image (print of logo on a jet created using a digital photography program);
- direct all students to complete self, peer and instructor assessments;

Extension ideas:

- initiate and moderate a presentation / discussion of the process of a branding, business card and product application through research followed by a poster or digital presentation;
- guest speaker: invite a graphic designer and branding specialist to speak to classes.

Performance Tasks for Evaluation:

The student will:

1. demonstrate his/her knowledge and understanding of the role of the elements and principles of design in logotypes, letterheads, and branding basics through an early unit quiz and / or small group presentation.
-formative assessment
2. present a collection of visual examples of "branding and branding applications" to post on a "logos, letterheads and branding" theme wall.
-formative assessment
3. present a critical analysis discussion of a personally selected line of brand products (logos, trademarks, business cards, letterheads, business advertisements, web pages, fleet vehicles, promotional items...).
-summative assessment
4. demonstrate understanding of the creative process as they brainstorm and develop options for branding applications (e.g. bus shelter, highway billboard, movie / television placements).
-formative assessment
5. demonstrate understanding of the creative and critical processes by developing a "branding suite" (a logo, letterhead, plus one selected application) for a chosen business (chosen from data base searches, internet, phone books, personal network or knowledge...).
-summative assessment of learning

Lesson 5: Applying the logo to a letterhead*Time: 6 hours*

Teachers will

- introduce this lesson by providing examples of the process of adapting a logo to a letterhead;
- explain the visual communication issues and conventions of letterhead design;
- require students to employ these conventions as they develop their letterheads;
- require students to document and submit their creative process in their journal/sketchbooks;
- require students to render and / or print (“hand” or digital software like Adobe Illustrator and In Design or Corel Draw...) a full colour letterhead and envelope;
- direct students to analyze the elements and principles of design which help organize a range of related products / applications including business cards and letterheads;

6. demonstrate knowledgeable use of elements and principles of design as applied to their “branding suite” (a logo, letterhead, plus one selected application) in an artist’s statement outlining why specific design and decisions were made;

-summative assessment of learning

DI

Instruction, evaluation and the learning environment based on curriculum expectations **and** the specific learning needs of the students in class.

Provide choices as appropriate to learn and / or demonstrate learning.

Engage multi-intelligence approaches... this can be done by creating centres and experiences including all centres for all.

Extensions

Direct students to explore, research, document and present the history and thought processes behind well known and non-familiar brands (e.g. Nike, CN, North-west Airlines, VIA Rail, Ontario Hydro...)

Lesson 6: Applying the logo and brand style to a selected product

(fleet vehicle, billboard, bus shelter...)

Time: 8 hours

Teacher will:

- introduce this lesson by providing examples of the process of branding and applications;
- direct students to recall the principles of design which help organize a suite of related products / applications, as discussed in the previous lesson;
- require students to submit a paper, poster (or other form of presentation) which presents their critical analysis of a personally selected "line of branding applications" (a series of products upon which the logo is placed; business cards, letterheads, websites, billboards, jets, basketballs, skates, soccer cleats, cell phones...); Students will discuss use and selection of imagery, colour, text, positive and negative space, demographics, personal of corporate identity connections...)

Support Materials & Resources

- Mark S. Haskett. *Design Your Own Logo: A Step-by-Step Guide for Businesses, Organizations and Individuals.* Toronto: International Self-Counsel Press, 1984.
- Volker Albus, Reyer Kras and Jonathan M. Woodham. *Icons of Design: The 20th Century.* Prestel, 2004.
- Douglas B. Holt. *How Brands Become Icons: The Principles of Cultural Branding.* Harvard Business School Press, 2004.
- Ernest Sternberg. *The Economy of Icons How Business Manufactures Meaning.* Praeger, 1999.
- *America's Ad Icons.* VHS. Films for the Humanities & Sciences, 2004.
- John D. Oathout. *Trademarks: A Guide to the Selection, Administration, and Protection of Trademarks in Modern Business Practice.* Scribners, 1981.
- Arnulf K. & Louise A. Esterer. *Saying It Without Words: Signs and Symbols.* Messner, 1980.
- Marcus Fairs. *21st Century Design:*

Lesson 7: Presentation of the “Branding Line” (Optional Extension)

Time: 8 hours

Teachers will

- provide ongoing feedback during all stages of creative development;
- provide multiple examples of design work that is focused on one concept (the slight variations found in commercial design that lead up to a final client informed decision);
- model how to display, promote and discuss design pieces found in a portfolio;
- moderate a group critique of the students’ completed branded lines;
- give anecdotal feedback perhaps via a mock, graphic design, portfolio interview;
- create an evaluation template of the ‘suite’ for self, peer and instructor.

Lesson 8: Post - unit Test or Reflective Process

Time: 1 hour

Post-test:

Students are given various opportunities (writing, class presentation, poster/ /graphic submission, small group discussion) to address and reflect upon key points of logo, letterhead and branding applications design.

New Design Icons from Mass Market to Avant-Garde.

Carlton, 2009.

· Steven Heller.

Icons of Graphic Design.

Thames & Hudson,

2008.

· Steven Heller.

Genius Moves: 100 Icons of Graphic Design.

Northern Lights Books,

2001.

· Peter York, *How Marketing Got Under Our Skin,*

INTELLIGENT LIFE

Magazine, Autumn 2009.

Glossary of Terms

brand identity

: the consumer's perception of a product, service, person or organization

How you want the consumer to perceive your product or your brand. Companies try to bridge the gap between the brand image and the brand identity.

<http://marketing.about.com/od/marketingglossary/g/brandiddef.htm>

"...Corporate identity is concerned with the visual aspects of a company's presence. When companies undertake corporate identity exercises, they are usually modernizing their visual image in terms of logo, design, and collaterals. Such efforts do not normally entail a change in brand values so that the heart of the brand remains the same - what it stands for, or its personality..."

<http://www.brandingasia.com/columns/temporal10.htm>

"...Brand identity is the total proposition that a company makes to consumers - the promise it makes. It may consist of features and attributes, benefits, performance, quality, service support, and the values that the brand possesses. The brand can be viewed as a product, a personality, a set of values, and a position it occupies in people's minds. Brand identity is everything the company wants the brand to be seen as.

Brand image, on the other hand, is the totality of consumer perceptions about the brand, or how they see it, which may not coincide with the brand identity. Companies have to work hard on the consumer experience to make sure that what customers see and think is what they want them to..."

<http://www.brandingasia.com/columns/temporal10.htm>

demographics

Function: *noun*

Date: circa 1966

: the statistical characteristics of human populations (such as age, sex or income) used especially to identify markets

<http://www.merriam-webster.com/dictionary/demographics>

letterheads

Function: *noun*

Date: circa 1887

: stationery printed or engraved usually with the name and address of an organization; *also* : a sheet of such stationery **2** : the heading at the top of a letterhead

<http://www.merriam-webster.com/dictionary/letterheads>

logo (from logotype)

Pronunciation: \ˈlɒ-gə-ˌtɪp, ˈlɑ-ˌ

Function: *noun*

Date: circa 1816

: a single piece of type or a single plate faced with a term (as the name of a newspaper or a trademark)

: an identifying symbol (as for use in advertising)

<http://www.merriam-webster.com/dictionary/logotype>

target market

: a specific group of consumers at which a company aims its products and services

<http://www.entrepreneur.com/encyclopedia/term/82498.html>

Unit 3 Description**Fashion Design: Synesthesia (Fashion inspired by Music) (Approximately 25 hours)**

In this unit students will create a garment that is inspired by traditional ethnic or a contemporary genre of music or song. Students will create a pattern on their garment that will echo the rhythm of their chosen music. The tones and sounds they hear will be translated into visual from using the elements and principles of design, symbols and motifs. Students will explore sound - colour synesthesia. Their patterns may also mimic the cultural or historical reference of their garment. Similarly, the shape and style of their garment will reflect the culture and historical background of their chosen music. Students may use various dyeing and sewing techniques that are represented in their garment's culture and/or history. Students will explore the works of Wassily Kandinsky, fashion and textile design throughout history and various cultures. The finished garment could be shown in a public space or gallery fashion show accompanied by the connected music.

Students will explore the theme of "synesthesia" as an inspirational source for the creation of the surface textile design and the structure of a garment. The theme of cultural design conventions and cultural identity is also explored. whereby the shape, colour, pattern, and structure of a garment is inspired by the cultural identity and place of interest as indicated by their musical choice.

syn-es-the-sia or synaesthesia n

1. the feeling of sensation in one part of the body when another part is stimulated
2. the evocation of one kind of sense impression when another sense is stimulated, for example, the sensation of color when a sound is heard
3. in literature, the description of one kind of sense perception using words that describe another kind of sense perception, as in the phrase "shining metallic words" (literary)

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Overall and Specific Expectations**Overall & Specific Expectations**

A1, A2, A3, A1.1, A.2, A2.1, A3.1, A3.2, A3.3, A3.4, B1, B2, B3, B1.1, B1.3, B2.2, B3.1, B3.2, C1, C2, C3, C1.1, C1.2, C3.2.

A1. Apply the creative process to create a variety of artworks, individually and/or collaboratively;

A2. Apply the elements and principles of design to create art works for the purpose of self-expression and to communicate ideas, information, and/or messages;

A3. Produce art works, using a variety of media/materials and traditional and emerging technologies, tools, and techniques, and demonstrate an understanding of a variety of ways of presenting their works and the works of others;

B1 Demonstrate an understanding of the critical analysis process by examining, interpreting, evaluating, and reflecting on various art works;

B2 Demonstrate an understanding of how art works reflect the societies in which they were created, and how they can affect both social and personal values;

B3 Describe opportunities and requirements for continued engagement in visual arts;

Learning Goals:

By the end of this unit students will be able to:

- analyze and demonstrate efficacy with the elements and principles of design to create original, music inspired pattern designs;
- investigate how colour and pattern in textile and fashion design can reflect the music, history, religion, and culture of a place and its people.
- demonstrate ability to make effective studio and theory presentation decisions;
- reflect on, dialogue about, and demonstrate the necessity of design and how it impacts our daily lives (both functionally and aesthetically – and publicly and privately);

- C1 Demonstrate an understanding of, and use correct terminology when referring to, elements and principles, and other components related to visual arts;
- C2 Demonstrate an understanding of conventions and techniques used in the creation of visual art works;
- C3 Demonstrate an understanding of responsible practices in visual arts;

Specific Expectations

- A1.1 Use various strategies, individually and/or collaboratively, to generate, explore, and elaborate on ideas and to develop and revise detailed plans for the creation of art works that address a variety of creative challenges;
- A2.1 Explore how elements and principles of design can be used to convey emotion and enhance personal expression;
- A3.1 Explore and experiment with media, including alternative media, and current technologies, and use them to create a variety of art works;
- A3.2 Explore a range of traditional and current materials, technologies, techniques, and tools used by visual artists;
- A3.3 Describe appropriate standards and conventions for the presentation of different types of visual art works, and apply these standards and conventions when preparing their art works for presentation;
- A3.4 Explain how variations in where and how art works are displayed;
- B1.3 Explain, with reference to particular works, both historical and contemporary, how knowledge of an art work's culture and historical context, achieved through research, has clarified and enriched their understanding of the work's intent and meaning;
- B2.2 Explain, on the basis of research, ways in which various art works are a response to and a reflection of the societies in which they were created;
- B3.1 Identify a variety of careers in fields related to visual arts, and describe the skills education, and training they require;
- B3.2 Describe, on the basis of research and investigation, a variety of personal opportunities in their community in cultural or other fields related to visual arts;
- C1.1 Demonstrate an understanding of the elements and principles of design, and use terminology related to these elements and principles correctly and appropriately when creating or analyzing art works;
- C1.2 Explain terminology related to a variety of techniques, materials, and tools, and use this terminology correctly and appropriately when creating, analyzing, and/or presenting art works;
- C3.2 Demonstrate an understanding of health and safety issues and conscientious practices associated with the use of materials, property techniques, tools, and technologies in visual arts, and apply these practices when creating and/or presenting art works.

- examine and analyze specific, music related work of Wassily Kandinsky, Henri Matisse, Benram Brooker, and selected cultures art and design;
- use the creative process to produce music inspired patterns and construct a garment on which to dye / print them;
- develop sewing skills (relative to their experience);
- utilize appropriate materials, techniques and tools to reflect the style or history of a garment as well as the music.
- engage in the creative process through brainstorming, researching, sketching, refining drawings, creating and developing patterns, cutting and dyeing fabric, sewing garment and embellishing.

Key Questions:

1. How are elements and principles of design used to reflect this creative challenge? What do the colour and patterns of textiles and the shape of a garment communicate about the culture or place in which it was created?
2. How is my work inspired by the public realm and how will I exhibit my work in the public?
3. How have I used the stages of the creative process to inform and direct my design process?
4. Where were my key decisions made and why do these stages "stand out" for me?
5. How can music affect my art? How can music sound like a colour? How has music affected / influenced the art of others? How does music reflect culture? How can music influence fashion design? How do other art forms influence visual arts?

Instructional Strategies:

Introductory idea: Think about a very comfortable place and personal time where you can listen to the music you enjoy. As you let yourself get into the tunes, you become aware that certain colours seem to be coming to mind. A little later, you think about that cool experience of listening to music and seeing colours... one sense triggered another! This is a great concept to explore in your art making...

Lesson 1: What is “Fashion Design: Synesthesia” about?

Time: apprx. 4 hours

Teacher will:

- prepare the studio (playback device, paper stock, pencils, coloured pencils, scissors...) so students can make interpretive, visual responses to selected music pieces;
- select and play various samples of music representing different cultures and times
- direct students to make spontaneous marks, patterns, rhythms and apply colours they “see” and “feel” as the music is played;
- assemble and display images of textile design and fashion design from various cultures
(e.g. Yoruba people of Nigeria, Bamana people of Mali, Asante people of Ghana, Japanese boro textiles, South American, North American, and European textiles etc.)
- facilitate a discussion analyzing the elements and principles of design (specifically colour, line, shape, space, rhythm and pattern) found within these textiles and how they communicate messages about the history, culture, ideas, religion, emotions of people in various places and cultures;
- provide opportunities for students to view the textile and fashion design of various regions while listening to samples of music from the same region;

6. What inspires and informs the creation of a garment (whether traditional, ethnic or contemporary)?
7. What conventions informed my work? What conventions would I or did I “break” and why?
8. How does design reflect the societies in which they were created?
9. How is the role of pattern and colour reflected in different cultures?
10. How do visual patterns on cloth from different cultures mimic musical rhythmic beats?
11. Art is often influenced by music. What other disciplines or topics influence your art making choices?

Prior Learning:

- Prior knowledge for this unit depends on the medium chosen by the student and availability of materials and options in the classroom
- Prior knowledge of the elements and principles of design and the creative and critical processes would be assets.
- Prior knowledge of sewing, fabric printing and dyeing would be assets.

Assessment for and of Learning:**Assessment & Evaluation Strategies**

- checklists
- self / peer / teacher conferencing
- oral critiques – peer and instructor assessment
- written responses – self / peer and / or instructor assessment
- summative rubrics

Lesson 2: Music as inspiration for the Yoruba people of Nigeria, Kandinsky, Matisse and Brooker

Time: 3 hours

Teacher will:

- present textile and music samples of the Yoruba people of Nigeria, West Africa, South America (like samba), and North America (like hip-hop) and moderate a discussion of art and music relationships;
- challenge students to find other cultural groups with strong relationships between their music and their clothing; provide research opportunities;
- facilitate a discussion on the correlation between the musical and visual patterns;
- require a written and illustrated presentation (individual or small groups) of those and other cultures.
 - e.g. a Yoruba 'adire eleko' cotton wrapper from western Nigeria
- present specific artworks of Wassily Kandinsky, samples of the music to which he listened and provide reflections on his sound-colour synesthesia theory;
- provide a selected Kandinsky piece and ask students, in small groups, to suggest and discuss what the inspirational music might have been like *and why* (How were the elements and principles of design used to suggest the music's qualities?);
- direct students to take notes and make sketches to summarize concepts;

Assessment Tools:

- Formative report prior to end of unit 3 (to provide feedback to students and instructor)
- Formative assessments (Progress notes, on going interaction in studio, student self-assessment)
- Evaluation rubric of sound – colour synesthesia activity
- Formative assessment of reports, presentations and the initial creative processes (rough designs)
- Reflections and self-check lists to ensure the completion of task specific items
- Creative Process rubric
- Visual journal/sketchbook
- Anecdotal Comments
- Essay/visual project/digital media slideshow
- Rubrics: Summative evaluation (rubric) culminating activity including creative process, dying / printing techniques, garment construction

"...Kandinsky's conviction that music is a superior art to painting due to its inherent abstract language came out forcefully in the artist's admiration for the music of the Viennese composer Arnold Schönberg, with whom he initiated a longstanding friendship and correspondence and whose *Theory of Harmony* (1911) coincided with Kandinsky's *On the Spiritual in Art*. Kandinsky's complex relationship to Schönberg's music is central to his concept of Composition, since Schönberg's most important contribution to the development of music, after all, occurred in the area of composition..."

from <http://artchive.com/artchive/K/kandinsky.html>

"Composition VIII"

1923

Oil on canvas

140 x 201 cm (55 1/8 x 79 1/8 in)

Solomon R. Guggenheim Museum, New York

"Contrasting Sounds"

1924;

Oil on cardboard,

70x49.5cm;

Centre Georges Pompidou, Paris

Performance Tasks for Evaluation:

The student will:

1. demonstrate his/her knowledge and understanding of the role of the elements and principles of design in creating interpretive, visual responses to selected music pieces.

(This could be a studio project using various media, spontaneous marks, patterns, rhythms and applying colours they "see" and "feel".)

-formative assessment

2. present, in small groups, an analysis of music samples representing one specific culture (other than their own) and one major time period (e.g. Middle Ages and Gregorian chants) after research and sharing discussions.

Presentation format to be determine by group and instructor.

-formative assessment

3. demonstrate his/her knowledge and understanding of the creative process by completing an original compositional response to "connecting imagery to sound" (music piece, media and size to be determined by each student).

-summative assessment

4. employ co-created success criteria for self, peer, and instructor assessment for this project;

-summative assessment

6. demonstrate his/her knowledge and understanding of the connections between the elements and principles of design and sample textiles designs, noting how they

- present and moderate a class discussion on some of the music inspired works of Henri Matisse; direct students to take notes and make sketches about Matisse's work with music themes;
- direct students to take notes and make sketches;

"La Danse (I)"
Early 1909
Oil on canvas
8'6 1/2" x 12'9 1/2" (259.7 x 390.1 cm)
The Museum of Modern Art, New York

"Dance (II)"
[late 1909-summer] 1910
Oil on canvas
8' 5 5/8" x 12' 9 1/2" (260 x 391 cm)
The Hermitage Museum, St. Petersburg
Formerly collection Sergei Shchukin

"La Musique"
1910
Oil on canvas
8'5 3/8" x 12'9 1/4" (260 x 389 cm)
The Hermitage Museum, St Petersburg

communicate messages about the history, culture, ideas, religion, music and emotions of people.

-formative assessment

7. submit a written and illustrated summation of the discussion on the correlation between the musical patterns and visual patterns;

-formative assessment

8. demonstrate his/her knowledge and understanding of the creative process as he/she selects a musical piece for inspiration of the design that will be applied to the fabric of their constructed garment.

-formative assessment

9. demonstrate his/her knowledge and understanding of textile dyeing techniques.

-formative assessment

10. demonstrate various sewing and embellishment techniques.

-formative assessment

11. demonstrate his/her knowledge and understanding of the creative process as they print their developed pattern and motifs on their original, constructed garment.

-summative assessment

DI

Instruction, evaluation and the learning environment based on curriculum expectations **and** the specific learning needs of the students in class.

Provide choices as appropriate to learn and / or demonstrate learning.

Engage multi-intelligence approaches... this can be done

- present some of the music inspired works of Canadian artist, Bertram Brooker;
direct students to take notes and make sketches so as to further expose students to an artist's creative process;

"Sounds Assembling"
1928,
Oil on canvas
44.5" x 36"
Winnipeg Art Gallery

"Alleluiah"
c. 1929
oil on canvas 123 x 123.3 cm
National Gallery of Canada

by creating centres and experiences including all centres for all.

Lesson 3: “Seeing the music”*Time: 4 hours*

Teacher will:

- provide opportunities for students to listen to music and examine textiles of a culture to see how musical rhythms and patterns and visual rhythms and patterns are related; direct students to take notes, make image collections (from magazines / the internet) and sketches;
- provide exemplars and direct an investigation of how colour and pattern in textile and fashion design can reflect the culture (history, religion, music) of a place and its people;
- require students to use the creative process to complete an original composition as a response to “connecting imagery to sound” (music, media and size to be determined by each student in consultation with the instructor);
- co-create success criteria with students for an assessment (self, peer, instructor) rubric for this project;

Extensions

For the fashion unit a possible extension could be to put on a fashion show where the music and backdrops compliment the garments being shown. Students may also decide to display work in museum or other public settings and have the music accompany the clothing for the viewers to listen to. Or a fashion magazine may be created with photo shoots of their wearable garments and have them in their cultural settings.

Support Materials & Resources

- Bentley, Patricia. *The Blues: A Resource Guide*. Toronto: Textile Museum of Canada, 2008.
- Kandinsky, Wassily. *Concerning the Spiritual in Art*. London:Dover Publications, 1977.
- Barbour, Jane and Doug Simmonds. *Adire Cloth in Nigeria: The Preparation and Dyeing of Indigo Patterned Cloths among Yoruba*. Ibadan, Nigeria: Institute of African Studies, University of Nigeria, 1971.
- Kubik, Gerhard. *Africa and the Blues*. Jackson: University of Mississippi, 1999.
- Bergh, Rene. *Making Your Own Patterns*. London: New Holland Publishers, 1995.
- Broughton, Kate. *Textile Dyeing*. Massachusetts: Rockport Publishing Inc.1996.
- Dunnewold, Jane. *Complex Cloth:*

Lesson 4: Creating a fabric design and garment based on music and cultural concepts

Time: approx. 19 hours

Teacher will:

- demonstrate textile dyeing techniques as students create their own samples on white cotton fabric, batik, shibori, marbling, block print, screen printing, discharge, photo transfers, free hand machine embroidery.
- demonstrate how to construct a garment through draping techniques;
- allow students to practice these techniques;
- demonstrate various sewing techniques to construct a garment and embellish it. Attention must be paid to various sewing experience levels.
- direct students to engage in the creative process where students will choose a song, research ideas and cultures, develop sketches, patterns and design fabric in their sketchbook / journals and construct a garment on which the design will be printed / dyed.

A Comprehensive Guide to Surface Design. WA: Martingale & Company, 1996.

- Brown, Pauline. *Decoration on Fabric*. East Sussex: Guild of Master Craftsmen Publications Ltd, 2001.
- Colchester, Chloe. *Textiles Today: A Global Survey of Trends and Traditions*. New York: Thames & Hudson Inc, 2007.
- Gunner, Janice. *Shibori for Textile Artists*. New York: Kodansha America, 2007.
- Laury, Jean Ray. *Imagery on Fabric: A Complete Surface Design Handbook*. California: C&T Publishing Inc, 1997.
- Laver, James. *Costume and Fashion: A Concise History*. New York: Thames & Hudson Inc, 2002.
- *Costume*. Amsterdam: The Pepin Press, 2001.
- Fukai, Akiko. *Fashion: A History from the 18th to 20th Century*. Hohenzollernring: Taschen, 2002.
- Morris, Bethan. *Fashion Illustrator*. New York: Abrams Studio, 2006.

Glossary

Batik:

A cloth which traditionally uses a manual wax-resist dyeing technique.

Motif:

A basic unit that, when repeated enough, creates a pattern

Pattern:

The repetition of a basic unit - a motif.

Rhythm:

The principle of art that indicates movement by repetition of elements. In music, rhythm is created by the measure of time between musical sounds. Beats are followed by rests. The visual arts combine repetition, patterning and pauses to create rhythm.

Types of rhythm are, random, regular, alternating, flowing, progressive.

Shibori:

A Japanese term for several methods of dyeing cloth with a pattern by binding stitching, folding twisting, or compressing the material

Synesthesia, Music / Colour:

Individuals “see” colours, patterns, rhythms in response to music and sounds.

Unit 4 Description Jewels For Justice: Personal & Commercial Jewelry Design, Show & Sale (Approximatley 25 hours)

In this unit, students will explore the rich history, culture and purpose of jewellery design. They will learn about various contemporary jewellery-making skills and ideas in order to create a meaningful body of functional work they could show and sell in order to experience a career in Jewelry Design. Students will design and fabricate 3 symbolic jewellery items: Jewellery for the Self, Jewellery for the Public, Jewelry for a Cause. Collectively, students will create a company concept so that they could sell their work in their school or in the larger community in order to raise money for a specific social justice or environmental cause. As a Culminating Task, students will collectively select a theme and design for their display booth. Students will create a name and design the logo, invitations, and order forms. Students will be responsible for displaying and selling their work and recreating orders for specific clients. (Students will display their body of work, take orders and recreate the work in order to suit the needs of a specific client, so that students could keep their original work.) Students will then donate all profits to a social justice or environmental cause or community project of their choosing. Prior safety demonstrations are essential at the beginning of this unit on how to safely operate tools and equipment.

In this unit, students will explore the themes of private vs. public, personal design vs. commercial design, designer/client relationship. Students will also explore themes of social justice issues and environmentalism. A focus will be on creating “Jewellery as symbol” for communicating function, personal identity, status, membership, commitment, protection, adornment, social justice awareness and or idea and storytelling.

Overall and Specific Expectations

A1, A2, A3, A1.1, A1.2, A1.3, A2.2, A3.1, A3.2, A3.3, A3.4, B1.2, B1.4, B2.1, B3.1, B3.2, C1, C2, C3, C1.1, C1.2, C2.1, C3.2.

- A1. Apply the creative process to create a variety of artworks, individually and/or collaboratively;
- A2. Apply the elements and principles of design to create art works for the purpose of self-expression and to communicate ideas, information, and/or messages;
- A3. Produce art works, using a variety of media/materials and traditional and emerging technologies, tools, and techniques, and demonstrate an understanding of a variety of ways of presenting their works and the works of others;
- A1.1 Use various strategies, individually and/or collaboratively, to generate, explore, and elaborate on ideas and to develop and revise detailed plans for the creation of art works that address a variety of creative challenges;
- A1.2 Apply the appropriate stages of the creative process to produce and revise two-and three-dimensional art works using a variety of traditional and contemporary media;
- A1.3 Document their use of each stage of the creative process, as well as varied and extensive research, in a portfolio that includes art works created for a variety of purposes;
- A2.2 Apply elements and principles of design as well as art-making conventions to create art works that comment and /or communicate their personal perspective on issues related to social justice or the environment;

Learning Goals:

By the end of this unit students will be able to:

- use the creative process in designing and fabricating work for private and public realms for a specific purpose.
- make connections beyond the classroom and experience operating a business in a jewellery design career for a specific social justice or environmental cause and to be involved with all aspects of design from designing jewellery, designing a logo, order forms, display design of booth, package design, pricing, labeling, and recreating work for a specific client.
- design original work that communicates different functions, purposes, beliefs, emotions, stories and ideas for a target market.
- utilize industry standard equipment, tools and techniques.

A3.1 Explore and experiment with media, including alternative media, and current technologies, and use them to create a variety of art works;

A3.2 Explore a range of traditional and current materials, technologies, techniques, and tools used by visual artists;

A3.3 Describe appropriate standards and conventions for the presentation of different types of visual art works, and apply these standards and conventions when preparing their art works for presentation;

A3.4 Explain how variations in where and how art works are displayed;

B1.2 Deconstruct the visual content and the use of elements and principles of design in their own art work and the work of others;

B1.4 Describe and reflect on the qualities of their own art works and the works of others, and evaluate the effectiveness of these works, using a variety of criteria;

B2.1 Analyze the function and social impact of different kinds of art works in both past and present societies;

B3.1 Identify a variety of careers in fields related to visual arts, and describe the skills education, and training they require;

B3.2 Describe, on the basis of research and investigation, a variety of personal opportunities in their community in cultural or other fields related to visual arts;

-apply their understanding of audience and purpose to the design and marketing of their work.

C1 Demonstrate an understanding of, and use correct terminology when referring to, elements and principles, and other components related to visual arts;

C2 Demonstrate an understanding of conventions and techniques used in the creation of visual art works;

C3 Demonstrate an understanding of responsible practices in visual arts;

C1.1 Demonstrate an understanding of the elements and principles of design, and use terminology related to these elements and principles correctly and appropriately when creating or analyzing art works;

C1.2 Explain terminology related to a variety of techniques, materials, and tools, and use this terminology correctly and appropriately when creating, analyzing, and/or presenting art works;

C2.1 Demonstrate an understanding of a wide variety of techniques that artists use to achieve a range of specific effects;

C3.2 Demonstrate an understanding of health and safety issues and conscientious practices associated with the use of materials, property techniques, tools, and technologies in visual arts, and apply these practices when creating

Key Questions:

1. How can you apply the techniques, styles and function of jewellery design throughout history and various cultures, in the creation of your own work?
2. How can you create a meaningful statement and personal style through the use of various jewellery materials and techniques?
3. How can you link your work to a career in design and be able to successfully sell your work? What is the process involved?
4. To be successful as a contemporary jeweler, do you have to create work with mass appeal?
5. What are the current jewelry trends? How do different age groups and genders differ in their taste for jewellery design?
6. How are elements and principles of design used to effectively create artwork?
7. How have you used the stages of the creative process to inform and direct your jewellery designs?
8. During the creative process, where were my key decisions made and why do these stages “stand out” for me?
9. What conventions informed my work?
10. What conventions would I or did I “break” and why?
11. How can cultures inform jewellery design?
12. How does designing for oneself differ from designing for a “client” or for public use?
13. What is the relationship between “form and function” as applied to jewelry?
14. How does the course theme of “Public versus Private” relate to jewelry design?

Instructional Strategies:**Lesson 1: What is “Jewellery Design”?***Time: 1 to 2 hours*

Teacher will:

- arrange students in small groups of 3 or 4 students and provide examples of a variety of different jewellery items. (Students may also look at the jewellery they are wearing.) Each group will discuss the form and function of one jewellery item. The jewellery items may include a wedding ring, a graduating class ring, an engineering ring, a rosary ring, medic alert bracelet, a pendant of faith symbolism, and several other pendants, brooches, cuff links, earrings, etc. Each group will discuss and record the form (elements and principles of design they find in their item, like line, shape, texture, colour, repetition, unity, etc.) Each group will also discuss and record the symbolism or function of the item. Students will report back to whole group. Teachers will record a list of the forms and function of jewellery.
- ask students what kinds of jewellery they wear and why? Direct students to make notes and sketches w in their sketchbooks / journals.
- lead students in a discussion of the form and function of jewellery design across cultures and time from prehistory to ancient Egyptian to Contemporary Jewellery Design. Teachers will provide examples through a presentation (posters, books, digital media) of images. Jewellery will be discussed as a symbol of status, membership, protection, ritual, and belief, and as a functional item to pin clothing, to stamp documents and to tell stories. Direct students to make notes and sketches w in their sketchbooks / journals.

Prior Learning:

Prior understanding of "beginning new studio media and techniques" and importance of studio safety practices would be an important asset.

- operating tools, equipment and materials safely should be assessed. Before students begin fabricating their jewellery, safety demonstrations will be given by teacher on how to safely use tools, equipment and materials like saws, files, rotary tools, oxy-propane torches, pickling acids, tumbler, kilns, etc. Other tools and equipment may also be used. Students will in turn demonstrate how to safely operate these tools.
- knowledge of the function and aesthetics of jewellery design throughout cultures and history would be an asset.
- knowledge and the application of the elements and principles of design to convey emotion, communicate an idea, message and function.
- branding applications from *unit # 2 “Logos, Letterheads and Branding”*

Assessment for and of Learning:**Assessment Tools:**

- Formative assessments (Progress notes, on going interaction in studio, student self-assessment)
- Formative assessment of the initial creative processes (rough designs)

Lesson 2: Introducing “Jewellery making and Safety”*Time: 5 hours*

Teacher will:

-demonstrate and explain the various tools, equipment and techniques used in jewellery design. Teachers will also display sample work while explaining the various techniques. Teachers should direct students to utilize the materials and tools that are available to them at their school. The following is a sample list of the possible items.

Tools & Equipment: Flexible-shaft machine (rotary tool), drill bits, grinding, carving and sanding bits, saws and blades, pliers,

files, sandpaper, digital calipers, mandrels, mallots, chasing hammer, oxy-propane torch, pickle, flux, solder, pick, charcoal

block, tumbler, kiln, snips and baking soda, etc.

Techniques: Sawing, piercing, bending, modelling, drilling, riveting, filing, polishing, carving, casting, soldering, chainmaking,

enamelling, etc.

Possible jewellery-making materials: Sterling silver, copper, aluminum, brass, pewter, clays, resin, stone, glass, found object, recycled materials, etc.

-demonstrate how to safely use the tools, equipment and materials students will be using. Students will, in turn, show teacher they can properly use these safely. (A chart will be filled out with a list of tools, date of teacher demonstration, date of student demonstration, teacher signature and student signature.) Teachers will also give students a letter to parents indicating their child's use of these tools and equipment. This letter will be signed and returned to teachers where they will keep it and the chart of demonstrations on file.

Tools that may be listed on the chart may include Safety Demonstrations on the use of the Jeweller's Saw (saw various metals), Flexible-shaft machine (used to drill, sand, grind, carve), Oxy-propane torch (used to solder), Pickle (used to dissolve oxidation from metals), and Tumbler (used to polish metal or stone).

After students complete their demonstrations of safe operation they are ready to begin their jewellery projects.

- Reflections and self-check lists to ensure the completion of task specific items

- Visual journal/sketchbook

- Anecdotal

- Comments

- Rubrics:

- Summative evaluation for final product and preliminary work for 3 jewellery items that focuses on knowledge of techniques & tools, creative process, appropriate use of materials and symbols to communicate message, and application of skills and techniques.

- Checklist of signatures for equipment demonstrations and contract.

- Artist statement for each piece.

- Rubric & Reflection for culminating task of show and sale that includes all aspects from logo to completed product.

- Self assessment and reflection indicating level of participation in show and sale.

Lesson 3: Creating jewelry with differing purposes*Time: 20 hours*

Teacher will:

- introduce the process of the creation of 3 jewellery items; one for student, themselves, one for a client and one as a symbol for a social justice or an environmental cause (depending on the time permitting, students may choose one of the following projects or they may do all 3. - provide instruction and demonstrations to students in the techniques, tools and equipment required to create these 3 jewellery pieces.

Jewellery for Self:

Students will design and fabricate a jewellery piece for themselves based on a personal identity symbol, a belief, or a protective ornament using any method or material. They may produce a personal symbolic pendant that is sawed from sterling silver, copper, aluminum, brass etc, carved and casted in metal, resin, etc, modelled in clays, carved in stone or constructed out of found object, etc.

Performance Tasks for Evaluation:

The student will:

1. In small groups, discuss and record the form and function of various types of jewellery reporting back to larger group.
 - formative assessment
2. In a class situation, after research opportunities, discuss the form and function of jewellery design across cultures and time from pre-historic to Egyptian to Contemporary Jewellery specifically focusing on the theme of "jewellery as a symbol" of status, membership, protection, ritual, beliefs, functional item to pin clothing or signature ring to stamp documents and to tell stories.
 - formative assessment
3. Demonstrate responsible safety practice and interest by attending and taking notes from Safety demonstrations on the materials, tools and equipment to be used and the student will, in turn, demonstrate how to safely operate tools and equipment.
 - formative assessment
4. Demonstrate understanding effective materials

Jewellery for Public / Client:

Students will design a jewelry piece for a client. This could be a ring, bracelet chain pendant, cuff links, pin, earrings, etc using any material or method. Students will first gather demographic marketing information from teenagers and adults in their community of both genders. Some sample questions might include:
 “What jewelry items, materials, and subject matter do you like to wear?”

Jewellery for a Cause:

Choosing a material of their choice, students will design and fabricate a jewellery item that symbolizes a social justice or environmental issue they feel strongly about. This could be linked to the organization, cause or project to which they will be donating their profits.

and methods choices in consultation with instructor.

-formative assessment

5. Demonstrate the creative process in the design and fabrication of 3 jewellery items: Jewellery for Self, Jewellery for Client or Public and Jewellery for a Cause. (If students have less time for this unit, they could choose one of these options.) Students will plan their ideas in their sketchbook and consult with teacher before and during the creation of their jewellery.

-summative assessment

6. Demonstrate understanding of the creative process as they collectively create a business concept with theme, name, logo for their jewellery show and sale. Students will create a logo, invitations, order forms and the design of their display booth (as basic or developed as appropriate for your students).

-summative assessment

7. in consultation with instructor, demonstrate understanding of the considerations to weigh, price and display their work as

Lesson 4: Culminating Task: Branding for jewellery

Time: 4+ hours

Teacher will:

- aid students with the development of a business design concept by modeling and explaining brainstorming, possible themes, names, and interior design of booth or display;
- review key issues in designing a logo, order forms, invitations, employing digital media;
- involve students in the relevance and knowledge of weighing, pricing and labeling of jewellery;
- help students with their display and sale.

samples that can be ordered and recreated. Students may take orders for a few days at lunch and after school. Students may choose to sell their work or they may recreate their work to suit the clients specifications. Students will then package their work and deliver items. (The packaging could be as simple as their logo printed on a label adhered to a small box.)

-formative assessment

8. Demonstrate understanding of the function and social impact of different kinds of art works as they donate all profits of sale to a social justice or environmental cause or charity of their choice.

-summative assessment

DI

Instruction, evaluation and the learning environment based on curriculum expectations **and** the specific learning needs of the students in class.

Provide choices as appropriate to learn and / or demonstrate learning.

Engage multi-intelligence approaches... this can be done by creating centres and experiences including all centres for all.

Lesson 5: Culminating Task Continued: The Jewellery Show and Sale (Optional Extension)

Time: 6+ hours

Teacher will:

- direct students to collectively determine the beneficiary of the raised money;
- direct students to collectively determine the dates, location and form of the Jewellery Show and Sale;
- require all students to take initiative and active part in the Jewellery Show and Sale, signing up for selling or remaking of products.
 - help gather materials and review techniques needed to create client specific orders.
 - help gather materials for packaging and delivering of products.

Extensions

A possible extension to the unit may be to create an online school store website with their jewellery for their business. Another possibility, create a catalogue of all jewellery item with prices and have copies available so that people could place orders. In both photography, layout, computer applications are involved

Support Materials & Resources:

- *Metalsmith Magazine*
- Astfalck, Jivan, Broadhead, Caroline & Derrez, Paul. *New Directions in Jewellery*. London: Black Dog Publishing, 2005.
- McCreight, Tim. *The Complete Metalsmith*. Massachusetts: Davis Publications, 1991.
- McCreight, Tim. *Jewelry: Fundamentals of Metalsmith*. Madison: Hand Book Press, 1997.
- McGrath, Jinks. *The Encyclopedia of Jewellery-Making Techniques*. London: Running Press, 1995.
- Waszek, Glen F. *Making Silver Chains*. New York: Lark Books, 2001.
- Le Van, Marthe. *Fabulous Jewellery From Found Objects*. New York: Lark Books, 2005.
- Gollberg, Joanna. *Making Metal Jewellery*. New York: Lark Books, 2003.
- *1000 Rings*. New York: Lark Books, 2004.
- Le Van, Marthe. *1000 Necklaces*. New York: Lark Books, 2006.

Glossary of Terms

Calipers: This is an instrument for measuring thicknesses and internal or external diameters inaccessible to a scale, usually having a screwed or sliding adjustable piece.

Flux: Flux comes the Latin word for flow, and refers to the chemicals that facilitate the flow of solder by preventing the formation of oxides.

Mallets: Hammerlike tools of a relatively soft material used to shape a metal without severely thinning it. Typical materials are wood, leather or plastic.

Mandrels: Tools used to provide a surface against which a softer metal may be formed. The most common varieties are identified by names related to their sizes, as in bezel mandrel, ring mandrel, and bracelet mandrel.

Pickle: This is a chemical bath used to dissolve surface oxidation and flux residue from a metal's surface. Pickles work at room temperature but the reaction is hastened with heat.

Piercing: The use of a sawframe and blade to create shapes from sheet metal.

Rivets: *Also known as Cold Connections.* Rivets are pieces of rod that are slid through a snug hole and upset or bulged over on each end to lock pieces of metal together.

