



Auburn School District #408

## Jewelry/Metal Sculpture 3 and 4

Course: Jewelry and Small Metal Sculpture 3 and 4		Total Framework Hours up to: 180
CIP Code: 500713	X Exploratory	Date Last Modified: 6/12/2016
Career Cluster: Art, Audio/Video Technology, and Communications		Cluster Pathway: Visual Arts

### Unit Outline Hours

Unit 1: Elements of Art and Principles of Design	20
Unit 2: Safety & Tool Usage	20
Unit 3: Sawing and Filing	25
Unit 4: Hot and Cold Connections	30
Unit 5: Metal Finishes and Finishing	25
Unit 6: Casting	20
Unit 7: Leadership	20
Unit 8: Stone Setting	<u>20</u>
<b>Total Hours</b>	<b><u>180</u></b>

## UNIT 1 Elements of Art and Principles of Design

**Performance Assessments:** Student will be able to identify and intentionally use the Elements of Art and Principles of Design to appreciate and create a work of metal art. Students will complete written reflections after completing project that demonstrates their understanding of Elements of Art and Principles of Design:

- Tube Setting with Granulation
- Saul Bell Emerging Artist Project
- Triple Dome Pendant
- Cuttlefish Casting
- Marriage of Metal
- Hinge Locket
- Heritage Project
- Line of Jewelry
- Passing the Torch
- Prom Piece
- Chain Making

**Leadership Alignment:** Leadership activity embedded in curriculum and instruction. (Examples: CTSO project or activity, locally developed leadership project or activity, embedded 21<sup>st</sup> Century interdisciplinary theme activity such as global awareness, financial, economic, business & entrepreneurial literacy, civic literacy, health & safety, environmental literacy)

1. A.1 Use a wide range of idea creation techniques (such as brainstorming).
2. A.1 Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation.
4. B.1 Use information accurately and creatively for the issue or problem at hand.

Students will practice creative thinking, problem solving, and innovation to develop designs that incorporate the Elements of Art and Principles of Design. Students demonstrate communication skills by listening effectively and following direction. Students will complete a written reflection at the end of assignments where they will evaluate what Elements of Art and Principles of Design have been incorporated into their project.

### *Standards and Competencies*

## Standard/Unit 1: Elements of Art and Principles of Design

### Competencies

### Competencies

- Students can identify, describe, and evaluate the design of a piece of metal art using the Elements of Art and Principles of Design
- Students can design or draw metal art which purposefully shows Elements of Art and Principles of Design
- Students can select, organize, and execute Elements of Art and Principles of Design to create a successful work of metal art

### *Aligned Washington State Standards*

<b>Arts</b>	<b>Arts</b>
<b>Educational Technology</b>	Educational Technology
<b>Health and Fitness</b>	Health and Fitness
<b>Math-Common Core State Standards</b>	Math-Common Core State Standards
<b>Reading-Common Core State Standards</b>	Reading-Common Core State Standards
<b>Science</b>	Science

<b>Social Studies</b>	Social Studies
<b>Speaking and Listening-Common Core State Standards</b>	Speaking and Listening-Common Core State Standards
<b>Writing-Common Core State Standards</b>	Writing-Common Core State Standards

## UNIT 2 SAFETY & TOOL USAGE

**Performance Assessments:**

**Assessments include, but are not limited to:**

- Day-to-day teacher observations of safe and correct tool use
- Teacher observation of active vocabulary use
- Written reflections after project completions
- Safety tests
- Tube Setting with Granulation
- Saul Bell Emerging Artist Project
- Triple Dome Pendant
- Cuttlefish Casting
- Marriage of Metal
- Hinge Locket
- Heritage Project
- Line of Jewelry
- Passing the Torch
- Prom Piece
- Chain Making

**Leadership Alignment:** Leadership activity embedded in curriculum and instruction. (Examples: CTSO project or activity, locally developed leadership project or activity, embedded 21<sup>st</sup> Century interdisciplinary theme activity such as global awareness, financial, economic, business & entrepreneurial literacy, civic literacy, health & safety, environmental literacy)

11. B.1 Act responsibly with the interests of the larger community in mind.

10. A.2 Prioritize, plan and manage work to achieve the intended result.

### *Standards and Competencies*

## **Standard/Unit 2: Safety & Tool Usage**

**Competencies**

**Total Learning Hours for Unit: 20**

- The student will be able to name the tools used in the classroom
- The students can describe the tool's uses
- The student can use tools in an order which makes sense
- The student can make intelligent decisions of what tool to use in the creation of metal art
- The student can care for tools and identify problems
- The student can use and describe tool safety

***Aligned Washington State Standards***

<b>Arts</b>	4.5 Understands how arts knowledge and skills are used in the world of work, including careers in the arts.
<b>Educational Technology</b>	1.1 Innovate: Demonstrate creative thinking, construct knowledge and develop innovative products and processes using technology.
<b>Speaking and Listening- Common Core State Standards</b>	Communications 1.1 Uses listening and observation skills and strategies to focus attention and interpret information. 1.2 Understands, analyzes, synthesizes, or evaluates information from a variety of sources.

**UNIT 3 SAWING AND FILING**

**Performance Assessments:**  
**Assessments include but are not limited to:**

- Tube Setting with Granulation
- Saul Bell Emerging Artist Project
- Triple Dome Pendant
- Cuttlefish Casting
- Marriage of Metal
- Hinge Locket
- Heritage Project
- Line of Jewelry
- Passing the Torch
- Prom Piece
- Chain making
- Layered Brooch

**Leadership Alignment:** Students use the essential skills of sawing and filing to realize creative designs founded in artistic principles. Students will think creatively to implement innovations, solve problems and manage goals and time to produce a finished product. Students have the opportunity to participate in an annual statewide competition sponsored by the Seattle Metals Guild.

- 4. B.1 Use information accurately and creatively for the issue or problem at hand.
- 8. B.1 Monitor defines, prioritize and complete tasks without direct oversight.

***Standards and Competencies***

**Standard/Unit 3: Sawing and Filing**

**Competencies**

**Total Learning Hours for Unit: 25**

- Students will be able to lay out a design on metal.
- Students will be able to properly install a sawblade into their frame.
- Students will be able to master sawing on various lines, including straight, curved and angled.
- Students will be able to safely pierce their metal and neatly saw inside cuts.
- Students will be able to saw without breaking an excess of blades.
- Students will be able to understand the mechanics of a saw and sawing.
- Students will be able to choose the right sawblade for the intended outcome.
- Students will be able to file correctly.

<b><i>Aligned Washington State Standards</i></b>	
<b>Arts</b>	1.2 Develops visual arts skills and techniques 2.1 Applies a creative process to visual arts. (Identifies, explores, gathers, interprets, uses, implements, reflects, refines, and presents) 3.1 Uses visual arts to express feelings and present ideas. 3.3 Develops personal aesthetic criteria to communicate artistic choices in visual arts
<b>Educational Technology</b>	
<b>Health and Fitness</b>	
<b>Math-Common Core State Standards</b>	
<b>Reading-Common Core State Standards</b>	RST-4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context
<b>Science</b>	
<b>Social Studies</b>	
<b>Speaking and Listening-Common Core State Standards</b>	
<b>Writing-Common Core State Standards</b>	W-10 Write routinely over extended time frames and shorter time frames for a range of tasks, purposes, and audiences

<b>UNIT 4 HOT AND COLD CONNECTIONS</b>	
<p><b>Performance Assessments:</b>  <b>Assessments include but are not limited to:</b></p> <ul style="list-style-type: none"> <li>- Fabricated Flower</li> <li>- Hinged Pendant</li> <li>- Shadow Box</li> <li>- Bezel Set Stone</li> <li>- Chain making</li> <li>- Tube Setting with Granulation</li> <li>- Saul Bell Emerging Artist Project</li> <li>- Triple Dome Pendant</li> <li>- Marriage of Metal</li> <li>- Hinge Locket</li> <li>- Heritage Project</li> <li>- Line of Jewelry</li> <li>- Passing the Torch</li> <li>- Prom Piece</li> </ul>	
<p><b>Leadership Alignment:</b> Students will make judgments and decisions as to how best solder their pieces. They will reason effectively to solve problems that may arise. Students will adapt to change and be flexible as their design necessitates.</p> <ul style="list-style-type: none"> <li>2. D.2 Identify and ask significant questions that clarify various points of view and lead to better solutions.</li> <li>8. A.1 Set goals with tangible and intangible success criteria.</li> </ul>	

**Standards and Competencies**

**Standard/Unit 4: Hot and Cold Connections**

**Competencies**

**Total Learning Hours for Unit: 30**

- Students will be able to prepare metal to be soldered.
- Students will be able to safely handle a torch and tools.
- Students will be able to apply the proper type of flame to a situation, oxidizing, neutral or reducing.
- Students will be able to control capillary action when flowing solder.
- Students will be able to minimize oxidation during the soldering process.
- Students will be able to create a tube rivet to hold parts together.
- Students will be able to create wire rivets to connect metals or as decoration.
- Students will be able to make and use jumpings to connect parts together.
- Students will fabricate using refined soldering skills such as soldering tubing, attaching a clasp and using multiple solders on a single piece.
- Students will assemble the pieces by controlling the flow of solder to only attach the desired pieces in a confined area.
- Students will control the heat from their torch in order to flow solder on a bezel wire in the construction of a bezel cup.
- Students will solder jumpings in a pattern without flowing previous solders in order to create a chain.

***Aligned Washington State Standards***

<b>Arts</b>	1.2 Develops visual arts skills and techniques 2.1 Applies a creative process to visual arts. (Identifies, explores, gathers, interprets, uses, implements, reflects, refines, and presents) 3.1 Uses visual arts to express feelings and present ideas. 3.3 Develops personal aesthetic criteria to communicate artistic choices in visual arts
<b>Educational Technology</b>	
<b>Health and Fitness</b>	
<b>Math-Common Core State Standards</b>	
<b>Reading-Common Core State Standards</b>	Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
<b>Science</b>	
<b>Social Studies</b>	
<b>Speaking and Listening-Common Core State Standards</b>	Communication: 1.1. Uses listening and observation skills and strategies to focus attention and interpret information. Communication: 1.2. Understands, analyzes, synthesizes, or evaluates information from a variety of sources.
<b>Writing-Common Core State Standards</b>	

**UNIT 5 METAL FINISHES AND FINISHING**

**Performance Assessments: Students identify and use stone setting techniques to enhance a finished piece of jewelry or sculpture. Student assessments include but are not limited to:**

- Tube Setting with Granulation
- Saul Bell Emerging Artist Project

- Triple Dome Pendant
- Cuttlefish Casting
- Marriage of Metal
- Hinge Locket
- Heritage Project
- Line of Jewelry
- Passing the Torch
- Prom Piece
- Chain Making

**Leadership Alignment:** Leadership activity embedded in curriculum and instruction. (Examples: CTSO project or activity, locally developed leadership project or activity, embedded 21<sup>st</sup> Century interdisciplinary theme activity such as global awareness, financial, economic, business & entrepreneurial literacy, civic literacy, health & safety, environmental literacy)

8. C.3 Demonstrate commitment to learning as a lifelong process.

9. A.1 Know when it is appropriate to listen and when to speak.

Students practice accountability and productivity to prioritize, manage, and complete projects on time. Students show initiative and self-direction by completing projects after listening to instruction. Students use information and manage time efficiently for the metal finishing technique at hand.

***Standards and Competencies***

**Standard/Unit 5: Metal Finishes and Finishing**

**Competencies**

**Total Learning Hours for Unit: 25**

- Demonstration and practice of: Sanding, polishing, annealing, stamping, stippling, roller printing, etching, applying patinas, enameling, applying colored resin to metal.
- Students participate in questioning about vocabulary and techniques.
- Written reflection describing what techniques were used and how they were used to enhance metal's surface.
- Student's view other students work and identify what metal surface enhancing techniques were used.
- Sand out scratches to prepare metal for a professional finish.
- Polish metal to high shine.
- Anneal metal to soften it.
- Imprint metal by hammering, stamping, and roller printing.
- Texture metal using the flex shaft and various bits.
- Etch metal using resist and etchants.
- Patina metal using flame and patinas.
- Enamel metal using enamels and the kiln.
- Mix epoxy resin and apply color to metal.

***Aligned Washington State Standards***

**Arts**

- 1.1 Understands and applies visual arts concepts and vocabulary.
- 1.2 Develops visual arts skills and techniques.
- 2.1 Applies a creative process to visual arts. (Identifies, explores, gathers, interprets, uses, implements, reflects, refines, and presents)
- 2.3 Applies a responding process to a presentation/exhibit of visual arts. (Engages, describes, analyzes, interprets, and evaluates)
- 3.2 Uses visual arts to communicate for a specific purpose.
- 3.3 Develops personal aesthetic criteria to communicate artistic choices in visual arts.

	4.5 Understands how arts knowledge and skills are used in the world of work, including careers in the arts.
<b>Educational Technology</b>	
<b>Health and Fitness</b>	
<b>Math-Common Core State Standards</b>	
<b>Reading-Common Core State Standards</b>	RST-4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context
<b>Science</b>	
<b>Social Studies</b>	
<b>Speaking and Listening-Common Core State Standards</b>	Communication: 1.1. Uses listening and observation skills and strategies to focus attention and interpret information. 1.2. Understands, analyzes, synthesizes, or evaluates information from a variety of sources.
<b>Writing-Common Core State Standards</b>	W 10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

## UNIT 6 CASTING

**Performance Assessments:**  
**Assessments include but are not limited to:**  
 Cast Pendants or Rings  
 Nature/plastic Casting  
 Cuttlefish Casting

**Leadership Alignment:** Students may choose to use this production technique to develop their designs. They will think creatively to solve problems and communicate their ideas to a diverse audience. Students will then have their pieces evaluated by peers for possible entry into a statewide competition, "Passing the Torch", sponsored by the nationally recognized Seattle Metals Guild.

- 7. A.2 Work effectively in a climate of ambiguity and changing priorities.
- 10.B.1 Demonstrate additional attributes associated with producing high quality products including the abilities to:
- 10. B.1d Participate actively, as well as be reliable and punctual.

### *Standards and Competencies*

#### **Standard/Unit 6: Casting**

#### **Competencies**

**Total Learning Hours for Unit: 20**

- Students will be able to attach a correct number of sprues in the correct positions to facilitate a clean casting.
- Students will be able to invest their model and calculate specific gravity.
- Students will be able to differentiate between Casting and Fabrication and when to use each.
- Students will be able to articulate the Casting process.
- Students will understand and be able to demonstrate other casting techniques including sand casting, cuttlefish bone casting, nature and plastic burn outs.
- Students will be able to carve a mold from a cuttlefish bone and pour in molten metal.

### *Aligned Washington State Standards*

<b>Arts</b>	1.2 Develops visual arts skills and techniques 2.1 Applies a creative process to visual arts. (Identifies, explores, gathers, interprets, uses, implements, reflects, refines, and
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	presents) 3.1 Uses visual arts to express feelings and present ideas. 3.3 Develops personal aesthetic criteria to communicate artistic choices in visual arts
<b>Educational Technology</b>	
<b>Health and Fitness</b>	
<b>Math-Common Core State Standards</b>	Reason quantitatively and use units to solve problems
<b>Reading-Common Core State Standards</b>	Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
<b>Science</b>	
<b>Social Studies</b>	
<b>Speaking and Listening-Common Core State Standards</b>	Communication: 1.1. Uses listening and observation skills and strategies to focus attention and interpret information. Communication: 1.2. Understands, analyzes, synthesizes, or evaluates information from a variety of sources.
<b>Writing-Common Core State Standards</b>	

## UNIT 7 LEADERSHIP

**Performance Assessments:**

**Assessments include, but are not limited to:**

- Tube Setting with Granulation
- Saul Bell Emerging Artist Project
- Triple Dome Pendant
- Cuttlefish Casting
- Marriage of Metal
- Hinge Locket
- Heritage Project
- Line of Jewelry
- Passing the Torch
- Prom Piece
- Chainmaking

**Leadership Alignment:** Leadership qualities are desirable in both acquiring workplace skills and advancing in the workplace. The Jewelry/Metals lab should always be a reflection of the workplace.

- 2. C.5 Reflect critically on learning experiences and processes.
- 3. A.4 Utilize multiple media and technologies, and know how to judge their effectiveness a priori as well as assess their impact.
- 8. A.2 Balance tactical (short-term) and strategic (long-term) goals.

**Standards and Competencies**

**Standard/Unit 7: Leadership**

**Competencies**

**Total Learning Hours for Unit: 20**

- The student will be able to be proactive.
- The student will be able to show a commitment to producing quality work.
- The student will be able to display strong work habits, including no cell phone use.
- The student will be able to hand in finished, wearable, functional work.
- Students will provide summaries of the qualifying activities they have participated in
- Students can demonstrate leadership by showing a commitment to producing quality work

**Aligned Washington State Standards**

<b>Arts</b>	4.1 Demonstrates and analyzes the connections among the arts (dance, music, theatre, and visual arts). 4.3 Understands how the arts impact and reflect personal choices throughout life. 4.4 Understands how the arts influence and reflect cultures/civilization, place, and time.
<b>Educational Technology</b>	
<b>Health and Fitness</b>	
<b>Math-Common Core State Standards</b>	
<b>Reading-Common Core State Standards</b>	
<b>Science</b>	
<b>Social Studies</b>	
<b>Speaking and Listening-Common Core State Standards</b>	
<b>Writing-Common Core State Standards</b>	W 10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

**UNIT 8 STONE SETTING**

**Performance Assessments: Students identify and use stone setting techniques to enhance a finished piece of jewelry or sculpture. Student assessments include but are not limited to:**

- Tube Setting With Granulation
- Flush Setting

**Leadership Alignment:** Leadership activity embedded in curriculum and instruction. (Examples: CTSO project or activity, locally developed leadership project or activity, embedded 21<sup>st</sup> Century interdisciplinary theme activity such as global awareness, financial, economic, business & entrepreneurial literacy, civic literacy, health & safety, environmental literacy)

- 8. B.1 Monitor defines, prioritize and complete tasks without direct oversight.
- 8. C.3 Demonstrate commitment to learning as a lifelong process.

Students will use creative problem solving and systems thinking to design a piece of jewelry or sculpture that incorporates stone setting and can competently execute stone setting. Students will learn the order of steps needed to complete a proper stone setting. Students show initiative and self-direction when managing tangible goals and time to complete a finished product with a stone setting. Students practice leadership and responsibility when participating in an annual High school metals

competition hosted by the Seattle Metals guild.

***Standards and Competencies***

**Standard/Unit 8: Stone Setting**

**Competencies**

**Total Learning Hours for Unit: 20**

- Students can successfully secure and set a stone in jewelry or small metal sculpture.
- Problem solving and understanding the order of steps to a complete stone setting.
- Understanding different types of gemstones and their hardness or softness.
- Written reflection describing what techniques were used and how they were used to enhance a finished piece of jewelry or sculpture.
- Identify the two general types of gemstone cuts: cabochon and faceted stones.
- Prep metal for specific stone setting technique.
- Demonstrate how to proficiently set cabochon and faceted stones.
- Decide how tall the bezel wire, tubing, or prongs should be for the chosen gem.
- Identify what tools are used for specific stone setting.

***Aligned Washington State Standards***

<b>Arts</b>	<p>1.1 Understands and applies visual arts concepts and vocabulary.</p> <p>1.2 Develops visual arts skills and techniques.</p> <p>2.1 Applies a creative process to visual arts. (Identifies, explores, gathers, interprets, uses, implements, reflects, refines, and presents)</p> <p>2.3 Applies a responding process to a presentation/exhibit of visual arts. (Engages, describes, analyzes, interprets, and evaluates)</p> <p>3.2 Uses visual arts to communicate for a specific purpose.</p> <p>3.3 Develops personal aesthetic criteria to communicate artistic choices in visual arts.</p> <p>4.4 Understands how the arts influence and reflect cultures/civilization, place, and time.</p> <p>4.5 Understands how arts knowledge and skills are used in the world of work, including careers in the arts.</p>
<b>Educational Technology</b>	
<b>Health and Fitness</b>	
<b>Math-Common Core State Standards</b>	
<b>Reading-Common Core State Standards</b>	RST-4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context
<b>Science</b>	
<b>Social Studies</b>	
<b>Speaking and Listening-Common Core State Standards</b>	<p>Communication:</p> <p>1.1. Uses listening and observation skills and strategies to focus attention and interpret information.</p> <p>1.2. Understands, analyzes, synthesizes, or evaluates information from a variety of sources.</p>
<b>Writing-Common Core State Standards</b>	W 10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

**21<sup>st</sup> Century Skills**

Check those that students will demonstrate in this course:

**LEARNING & INNOVATION**

**Creativity and Innovation**

- Think Creatively
- Work Creatively with Others
- Implement Innovations

**Critical Thinking and Problem Solving**

- Reason Effectively
- Use Systems Thinking
- Make Judgments and Decisions
- Solve Problems

**Communication and Collaboration**

- Communicate Clearly
- Collaborate with Others

**INFORMATION, MEDIA & TECHNOLOGY SKILLS**

**Information Literacy**

- Access and /evaluate Information
- Use and Manage Information

**Media Literacy**

- Analyze Media
- Create Media Products

**Information, Communications and Technology (ICT Literacy)**

- Apply Technology Effectively

**LIFE & CAREER SKILLS**

**Flexibility and Adaptability**

- Adapt to Change
- Be Flexible

**Initiative and Self-Direction**

- Manage Goals and Time
- Work Independently
- Self-Directed Learners

**Social and Cross-Cultural**

- Interact Effectively with Others
- Work Effectively in Diverse Teams

**Productivity and Accountability**

- Manage Projects
- Produce Results

**Leadership and Responsibility**

- Guide and Lead Others
- Be Responsible to Others