**Emmaus High School - Technology and Engineering Education -Print Media Unit 1 Introduction**

## Stage 1 Desired Results

Standards:
Standards: ISTE

**Empowered Learner**
1a - Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.

1b - Students build networks and customize their learning environments in ways that support the learning process.

1c - Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.

**Digital Citizen**
2b- -Students engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.

2c- -Students demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.

**Innovative Designer**
4a - Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.

4b - Students select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.

**Creative Communicator**
6a - Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.

6b - Students create original works or responsibly repurpose or remix digital resources into new creations.

6c - Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.

6d - Students publish or present content that customizes the message and medium for their intended audiences.

7c - Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.

7d - Students explore local and global issues and use collaborative technologies to work with others to investigate solutions.

***Big Ideas/Transfer***

Through design, collaboration, and the proper use of different printing processes students will learn to utilize various forms of print media to effectively deliver content to a specific audience.

| ***Essential Questions*** ***Students will keep considering...*** | ***Enduring Understandings*** ***Students will understand that...*** |
|---|---|
| 1. How do principles of design shape communication?<br>2. How does design relate to your daily life?<br>3. Which print process is most effective for communicating a message?<br>4. Is the design appropriate for the intended audience?<br>5. How can the design be improved? | 1. Audience can determine the type of printed media.<br>2. Design is influenced by appropriateness of the audience.<br>3. Feedback is crucial to making the design more effective. |
| ***Knowledge*** ***Students will know...*** | ***Skills*** ***Students will do (Science & Engineering Practices)*** |
| ● The principles of design in terms of movement, balance, unity, contrast, line, typography and color.<br>● How to determine which printing process is most effective in delivering a message.<br>● How to evaluate a design for effectiveness.<br>● Work collaboratively with other students on design problems.<br>● Understand the proper printing process needed to communicate certain information. | ● Designing for a variety of audiences and needs<br>● Problem solving that helps support multiple perspectives.<br>● Design process and effective communication<br>● Peer teaching and evaluation in a collaborative environment.<br>● Technical image manipulation<br>● Communication with peers and team members, using project plans or specifications. |

## STAGE 2 | EVIDENCE

The assessment should include authentic tasks based on one or more facets of understanding and are aligned with Stage 1

| **Performance Task(s):** *Please provide a description in the space below or include a link to the performance task* | **The performance task specifically provides evidence of (Transfer, EU, EQ):** |
|---|---|
| The students will produce a printed item, using one of the various printing processes that solve the given design problem.<br>Goal - Students will analyze different forms of print media and how they are applied in today's society.<br>Role - The students are designing and printing numerous projects that meet the needs of the client.<br>● Audience - The client.<br>● Situation - The students will use skills learned to produce a printed item that will meet the client's approval.<br>● Product - Client requested and approved product. | |
| **Other Assessment Evidence** | |

**Common Assessment(s), if any:**

- *Note: This is not mandatory. If there are common assessments given by every teacher teaching the course, please list them below.*

## Stage 3 – Learning Plan

**Summary of Key Learning Events and Instruction**

**Emmaus High School - Technology and Engineering Education -Print Media Unit 2 Adobe Cloud**

## Stage 1 Desired Results

<table>
<tr><td rowspan="4">Standards:<br><br>Standards: ISTE<br><br>Empowered Learner<br>1a - Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.<br><br>1b - Students build networks and customize their learning environments in ways that support the learning process.<br><br>1c - Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.<br><br>Digital Citizen<br>2b- -Students engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.<br><br>2c- -Students demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.<br><br>Innovative Designer<br>4a - Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.<br><br>4b - Students select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.<br><br>Creative Communicator<br>6a - Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.<br><br>6c - Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.<br><br>6d - Students publish or present content that customizes the message and medium for their intended audiences.<br>7c - Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.<br><br>7d - Students explore local and global issues and use collaborative technologies to work with others to investigate solutions.</td><td colspan="2">Big Ideas/Transfer</td></tr>
<tr><td colspan="2">Students will understand how the Adobe Creative Cloud Suite is used for design, layout and color separation in the printing industry today.</td></tr>
<tr><td>Essential Questions<br><br>Students will keep considering...</td><td>Enduring Understandings<br><br>Students will understand that...</td></tr>
<tr><td>1. Why is it important to understand the properties of artwork needed to produce an image in different printing formats?<br>2. Why is certain software more beneficial for certain printing jobs than others?</td><td>Certain Adobe software is used for specific printing jobs in today’s society.</td></tr>
<tr><td>Knowledge<br><br>Students will know...</td><td>Skills<br><br>Students will do (Science & Engineering Practices)</td></tr>
<tr><td>● Students will have a basic understanding of the different Adobe software platforms that are used in Industry.<br><br>● Students will understand the basics of Photoshop.<br><br>● Students will understand the basics of Illustrator.<br><br>● Students will understand the basics of Indesign</td><td>● Produce different artwork using the appropriate software.<br><br>● Analyze the properties of artwork in different printing formats.</td></tr>
</table>

<table>
<tr><td colspan="2">STAGE 2 | EVIDENCE<br><br>The assessment should include authentic tasks based on one or more facets of understanding and are aligned with Stage 1</td></tr>
<tr><td>Performance Task(s):<br><br>Please provide a description in the space below or include a link to the performance task</td><td>The performance task specifically provides evidence of (Transfer, EU, EQ):</td></tr>
<tr><td>Students will complete multiple tasks using the Adobe Creative Cloud in preparing artwork for print production.<br><br>● Goal - Students will understand the basics of Adobe Illustrator, Adobe Photoshop, and Adobe InDesign and the role they play in today’s printing industry<br>● Role - The students are printing a wide range of products using the Adobe Cloud.<br>● Audience -The teacher is evaluating the final project along with any client that may have asked for printed material.<br>● Product - Student produced project or client directed project.<br><br>Role - The students are designing and printing numerous projects that meet the needs of the client.<br><br>● Audience - The client.<br>● Situation - The students will use skills learned to produce a printed item that will meet the client’s approval.<br>● Product - Client requested and approved product.</td><td></td></tr>
<tr><td>Other Assessment Evidence</td><td></td></tr>
<tr><td colspan="2">Common Assessment(s), if any:<br><br>● Note: This is not mandatory. If there are common assessments given by every teacher teaching the course, please list them below.</td></tr>
</table>



**Stage 1 Desired Results**

Standards:

Standards: ISTE

**Empowered Learner**
1a - Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.

1b - Students build networks and customize their learning environments in ways that support the learning process.

1c - Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.

**Digital Citizen**
2b- -Students engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.

2c- -Students demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.

**Innovative Designer**
4a - Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.

4b - Students select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.

**Creative Communicator**
6a - Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.

6b - Students create original works or responsibly repurpose or remix digital resources into new creations.

6c - Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.

6d - Students publish or present content that customizes the message and medium for their intended audiences.

7c - Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.

7d - Students explore local and global issues and use collaborative technologies to work with others to investigate solutions.

***Big Ideas/Transfer***

Through design, collaboration, and project management, students will learn to utilize vector graphics effectively to deliver content to a specific audience.

| ***Essential Questions***<br><br>***Students will keep considering...*** | ***Enduring Understandings***<br><br>***Students will understand that...*** |
|---|---|
| 1. What is the advantage of using vector images over raster images?<br>2. How are vector images used in industry?<br>3. Why are vector graphics important when using a cad cutter<br>4. Is the design appropriate for the intended audience?<br>5. How can the design be improved? | 1. The importance of using vector graphics.<br>2. Be able to convert a raster image to a vector.<br>3. Understand that typography and images chosen have a direct effect on the final product. |
| ***Knowledge***<br><br>***Students will know...*** | ***Skills***<br><br>***Students will do*** ***(Science & Engineering Practices)*** |
| • The difference between a raster image and a vector image.<br>• How to convert a vector image from a raster image<br>• How to evaluate a design for effectiveness.<br>• How to use a vector image and apply it to a form a finished product. | • Convert raster images to vector images<br>• Be able to properly trace artwork that is brought into Adobe Illustrator<br>• Understand the importance of typography<br>• Be able to manipulate a vector image to be used in the correct printing process<br>• Transfer a vector image into cad cut software to produce a vinyl cut |

## STAGE 2 | EVIDENCE

The assessment should include authentic tasks based on one or more facets of understanding and are aligned with Stage 1

| **Performance Task(s):**<br><br>*Please provide a description in the space below or include a link to the performance task* | **The performance task specifically provides evidence of (Transfer, EU, EQ):** |
|---|---|
| Students will understand the importance of vector graphics and how they are used in todays' printing industry.<br><br>Goal - The students will be able to properly use vector graphics in different printing applications to meet the needs of the client<br><br>Role - The students are designing and printing numerous projects that meet the needs of the client.<br><br>• Audience - The client.<br>• Situation - Students will use skills learned to produce<br>• Product - Client requested and approved product. | |
| **Other Assessment Evidence** | |

**Common Assessment(s), if any:**

- *Note: This is not mandatory. If there are common assessments given by every teacher teaching the course, please list them below.*

## Stage 3 – Learning Plan

**Summary of Key Learning Events and Instruction**

Emmaus High School - Technology and Engineering Education - Print Media Unit 4 screen printing

## Stage 1 Desired Results

Standards:

Standards: ISTE

**Empowered Learner**
1a - Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.

1c - Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.

**Digital Citizen**
2b- -Students engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.

2c- -Students demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.

**Innovative Designer**
4a - Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.

4b - Students select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.

**Creative Communicator**
6a - Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.

6b - Students create original works or responsibly repurpose or remix digital resources into new creations.

6c - Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.

6d - Students publish or present content that customizes the message and medium for their intended audiences.

7c - Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.

7d - Students explore local and global issues and use collaborative technologies to work with others to investigate solutions.

***Big Ideas/Transfer***

Through design, collaboration, and project management, students will use screen printing to produce an image on a substrate of their choosing or the client's choosing

| ***Essential Questions***<br><br>***Students will keep considering...*** | ***Enduring Understandings***<br><br>***Students will understand that...*** |
|---|---|
| 1. How does the stencil affect the print?<br>2. How does design relate to your daily life?<br>3. Why is choosing the proper ink and substrate important?<br>4. Is the design appropriate for the intended audience?<br>5. How can the design be improved? | 1. Different stencils produce a wide range of detail.<br>2. Knowledge of different inks is crucial in completing the job properly.<br>3. Proper set-up is crucial in printing a noteworthy project<br>4. Feedback is crucial to making the design more effective. |
| ***Knowledge***<br><br>***Students will know...*** | ***Skills***<br><br>***Students will do (Science & Engineering Practices)*** |
| ● How to determine which stencil and ink are needed to produce an image.<br>● How to evaluate a design for effectiveness.<br>● Work collaboratively with other students on design problems.<br>● Understand the proper inks needed to produce an image in screen printing.<br>● Understand the proper stencils needed to produce a screened image. | ● Printing for a variety of audiences and needs<br>● Understand how type fonts are important when screen printing<br>● Will show proper printing technique to produce a screened image.<br>● Will be able to determine which ink is needed to print on certain substrates<br>● Collaborate with peers on certain projects |

## STAGE 2 | EVIDENCE

The assessment should include authentic tasks based on one or more facets of understanding and are aligned with Stage 1

| **Performance Task(s):**<br><br>*Please provide a description in the space below or include a link to the performance task* | **The performance task specifically provides evidence of (Transfer, EU, EQ):** |
|---|---|
| Students will learn the difference about ink and stencils needed to produce an image.<br><br>Goal - Students will have knowledge of the proper ink and stencils needed to produce a screened image on any substrate.<br><br>Role - The students are designing and printing numerous projects that meet the needs of the client.<br><br>● Audience - The client.<br>● Situation - The students will use skills learned to produce a printed item that will meet the client's approval.<br>● Product - Students will produce an image on a substrate of their choice. | |
| **Other Assessment Evidence** | |

**Common Assessment(s), if any:**

*Note: This is not mandatory. If there are common assessments given by every teacher teaching the course, please list them below.*

## Stage 3 – Learning Plan

**Summary of Key Learning Events and Instruction**

Emmaus High School - Technology and Engineering Education -Print media Unit 5 Offset Lithography

## Stage 1 Desired Results

Standards:

Standards: ISTE

**Empowered Learner**
1a - Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.

1b - Students build networks and customize their learning environments in ways that support the learning process.

1c - Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.

**Digital Citizen**
2b- -Students engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.

2c- -Students demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.

**Innovative Designer**
4a - Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.

4b - Students select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.

**Creative Communicator**
6a - Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.

6c - Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.

6d - Students publish or present content that customizes the message and medium for their intended audiences.

7c - Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.

7d - Students explore local and global issues and use collaborative technologies to work with others to investigate solutions.

***Big Ideas/Transfer***

Students will understand the importance of Offset Lithography and the role it plays in today's technological world.

| ***Essential Questions***<br><br>***Students will keep considering...*** | ***Enduring Understandings***<br><br>***Students will understand that...*** |
|---|---|
| 1. Why is it important to understand the proper artwork needed to produce an image in Offset Lithography?<br>2. Why is it important to know the chemical properties of inks and their solvents?<br>3. Why is Offset Lithography an essential part of today's technological world. | 4. The proper amount fountain solution and ink on the form rollers is crucial in the Offset process.<br>5. Proper pre-flight presswork is essential for the press to print properly. |
| ***Knowledge***<br><br>***Students will know...*** | ***Skills***<br><br>***Students will do (Science & Engineering Practices)*** |
| ● Students will have an understanding of pre-press work.<br>● Students will know how to properly prepare the press for production.<br>● Students will be able to run the press and produce a lithographic image. | ● Produce correct artwork for the lithographic print.<br>● Will be able to properly strip and burn a masking sheet<br>● Will be able to properly attach a plate to the press<br>● Properly run the press to produce a lithographic print.<br>● Maintain the press after production<br>● Package and deliver the final product to the client. |

## STAGE 2 | EVIDENCE

The assessment should include authentic tasks based on one or more facets of understanding and are aligned with Stage 1

| **Performance Task(s):**<br><br>*Please provide a description in the space below or include a link to the performance task* | **The performance task specifically provides evidence of (Transfer, EU, EQ):** |
|---|---|
| Students will produce a lithographic project using the Offset press.<br><br>● Goal - Students will understand the proper operation of the Offset press and be able to produce a lithographic print.<br>● Role - The students are printing a wide range of lithographic material on the offset press.<br>● Audience -The teacher is evaluating the final project along with any client that may have asked for printed material.<br>● Product - Student produced project or client directed project. | |
| **Other Assessment Evidence** | |

**Common Assessment(s), if any:**

- *Note: This is not mandatory. If there are common assessments given by every teacher teaching the course, please list them below.*

## Stage 3 – Learning Plan

**Summary of Key Learning Events and Instruction**