Faculty Advisor: Craig Basset

School Advisor: Zale Darnel

Teacher Candidate: Mark Surzyshyn

Day/Block: Mon/Wed Block 4

Tues/Thurs Block 3

Room: 112

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| Subject + Grade  ADST 6/7 | | Introduction/Rationale:  Basic Technical skills such as those taught in ADST help students develop not only technical skills and proficiency with tools, but also task planning, teamwork, professionalism (ie: punctuality, respect, ability to give and receive constructive criticism), social connections, and core area STEM/STEAM based learning.  This unit teaches safety with hand tools and basic power tools, as well as social interaction, group responsibilities and inclusivity/respect for peers   * Students will learn how to safely use a scroll saw, drill press, disc, and spindle sander * Students will learn how to laminate wood * Students will learn sequences of operations for a multi-part project * Students will learn many aspects of personal reflection,/ social responsibility, and community class operation.   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Unit Objective statement (The “why?” for the class):  Basic woodworking skills teach not only hands on useful techniques to assist you in later life, but also ideation, visualization of a completed piece with various parts of the whole, precision measurement and layout, and correct sequences of operation in complex projects. The knowledge of process is transferable in many other school and life applications, and learning through risk, failure, setback, and ultimate success teaches to the new curriculum, and parallels preferred life skills | |
| Title of Unit:  ADST sampler  Unit 1 – Woods | Length of Unit:  9 classes x 75 min.  1 race day |
|  |
| Prerequisite Skills:  Based on NO prior knowledge | Learning Intentions:  - Work in a group setting, be responsible as a small group spokesperson  - Understand rubric based expectations, help design class rubric.    -Use basic hand tools safely (saw, clamp, screwdriver, chisel, square)  -Use a scroll saw, disc and spindle sander, and drill press safely  -Laminate wood pieces  -Design a side profile of a car, layout and cut the profile  - basic layout and precision measurement |
| Big Ideas:  Design can be responsive to identified needs.  Complex tasks require the sequencing of skills.  Complex tasks require different technologies and tools at different stages. | | Core Competencies:  Communication - Acquire, interpret, and present, Collaborate  Creative Thinking - Novelty and value, generating ideas, developing ideas  Personal & Social - Self-determination, Self-regulation, building relationships   |  |  | | --- | --- | |  |  | | Vocabulary: (New words)   * Precision measurement * Layout * Laminates * Squaring |
| Curricular Competencies:  **Understanding context**: Think about potential design, is it fun, cool?  **Defining**: Choose a design opportunity.  **Ideating**: Generate ideas, add to others’ ideas. Any constraints? Choose an idea to pursue.  **Prototyping**: Construct a first version of the product (basic square car). Make changes as needed; record iterations.  **Testing**: Test the prototype, make changes as necessary  **Making**: Identify and use appropriate tools.  **Sharing**: Demonstrate the product, describe the process. Use appropriate terminology and share any insight during the process. | | Supporting All Learners:   * Handouts * Demo/do on overhead * Vocabulary/definitions * Small group work * Exit slips | Materials + Resources:  PPE  SPF 2x4’s or pine  Wood glue  Shop tools/measurement  Overhead projector with vga interface  Handouts  Pen/pencil, graph or regular paper |

Accommodations for Differentiated Instruction:

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| English Language Learner: | Handouts with definitions, pictures and visuals, powerpoint demo with procedure, small group work/peer assistance |
| Gifted Student: | Advanced design or refinements to the car body. Copy of an actual car |

Length of Unit: Jan 29-27 2018 (approximate time: 2 x 75: min blocks every week, 10 x 75: min blocks)

Content and approximate Duration: Safety (3 Class) Safety quiz

Learning labs (2 Classes)

Prototyping/constructing (4 Classes)

Completion/share (1 Class)

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| LESSON TOPIC | SPECIFIC LESSON OBJECTIVES (SWBAT) | TEACHING METHODS+ ACTIVITIES | STUDENT ACTIVITIES | MATERIALS & RESOURCES | DEMONSTRATION OF UNDERSTANDING **(Formative, Summative,**  &Performance Based) |
| 1. Intro/Meet & Greet  * Expectations/intro * General shop safety * Glimpse at first project | * Sate the general safety rules of the course | * Group read safety rules | * Read aloud and discuss the shop safety rules * Begin safety poster | Geoff leading |  |
| 1. Safety/  * Safety and technique – general shop safety * Safety quizzes   - Introduce posters | * Identify specific tool names and their function * Identify key safety aspect of operating/using a specified group of tools * Interact in a friendly and courteous manner with their instructor and partner. | * Class read alouds * General safety contract * Safety poster examples and criteria | * Online safety quizzes | * Library * Quizzstar online quizzes | * Safety quizzes |
| 1. Safety/  * Safety and technique – scroll saw * Safety quizzes   - Continue posters | * Identify specific tool names and their function * Identify key safety aspect of operating/using a specified group of tools * Transfer demonstrations and oral safety talks to scenarios (quizzes) | * Machine demo’s | * Online safety quizzes | * Library * Quizzstar online quizzes | * Safety quizzes |
| 1. Safety/  * Safety and technique – scroll saw, disc and spindle sander * Safety quizzes   - Continue posters | * Identify specific tool names and their function * Identify key safety aspect of operating/using a specified group of tools * Transfer demonstrations and oral safety talks to scenarios (quizzes) | * Machine demo’s | * Online safety quizzes | * Library * Quizzstar online quizzes | * Safety quizzes * Begin class reiteration/review of key safety rules |
| 1. Safety measurement  * Continue safety quizzes * Begin first cut (oven buddy squirrel) | * Identify key safety aspect of operating/using a specified group of tools * Hand tool safety and identification | * Machine demo’s, | * Finish quiz’s * Begin first cut | * Library * Shop supplies | * oral statement of rules from each student, prior to first cut * class reiteration/review of key safety rules |
| 1. Lab  * Layout techniques * Continue first cut project * Begin ideation if initial project is complete | * Cut and layout a pattern for scroll cutting * Demonstrate safe operation of a disc and spindle sander | Demo/do | Groups of 2  Fixed groups re: esl, IEP? | Shop supplies  Pencils  Layout patterns | Class participation observations   * clean up notes * safety and equipment use observations * class reiteration/review of key safety rules |
| 1. Theory/Lab  * Continue layout, cutting, and ideation | * Understand layout and ideation * Transfer paper ideas to wood projects | Circulate, assist, prompt inquiry, answer questions | Ideation on paper  - Transfer ideation to cutting | Shop supplies  Pencils  Layout patterns | Class participation observations  “checkmark” on ideations. |
| 1. Theory/Lab  * Continue layout, cutting, and ideation | * Understand layout and ideation * Transfer paper ideas to wood projects | Circulate, assist, prompt inquiry, answer questions | Ideation on paper  - Transfer ideation to cutting | Shop supplies  Pencils  Layout patterns | * Class participation observations   - Exit slip (mid unit) |
| 1. Lab  * Continue layout, cutting, and ideation * Begin dry assemble | * Safely cut, sand, and construct a small project car | Circulate, assist, prompt inquiry, answer questions | Ideation on paper  - Transfer ideation to cutting | - Pencil  - paper  - shop supplies | * Class participation observations |
| 1. Safety/  * Safety and technique – Drill press/hand drill * Safety quizzes | * Identify key safety aspect of operating/using a specified group of tools * Transfer demonstrations and oral safety talks to scenarios (quizzes) | * Machine demo’s | Online safety quizzes | * Library * Quizzstar online quizzes | * Safety quizzes |
| 1. Lab  * Wheels and axles, drilling * Begin laminating, clamping | * Laminate and clamp several small pieces into a whole * Assign exceptional students – drilling, forstener drill | Drilling demo, layout techniques | Glue laminations   * clamp laminations * drilling | - Pencil  - paper  - shop supplies | * Class participation observations * class reiteration/review of key safety rules - drills |
| 1. Lab  * continue laminating, clamping * drilling for axles/CO2 cart. | * Safely cut, sand, and construct a small project car * Laminate and clamp several small pieces into a whole * Assign exceptional students – drilling, forstener drill | Lamination, clamping demo | Glue laminations   * clamp laminations * drilling | - Pencil  - paper  - shop supplies | * Class participation observations |
| 1. Safety/  * Safety and technique – vise and hacksaw safety * Cutting axles | * Identify key safety aspect of operating/using a specified group of tools | * Cutting demo * Safety protocols | Cutting axles | - Pencil  - paper  - shop supplies | * Class participation observations * class reiteration/review of key safety rules – sawing metals |
| 1. Painting day/finishing day | * Design outer body paint motifs | * Paint PPE talk | Painting or final car finishing | * paint * mask tape * shop supplies | * Safety and no horseplay rule observations |
| 1. Lab  * Self reflection/asses * Share project * Prep for race day next class | * Reflect on process, learning, mistakes etc. * Understand how the CO2 cartridges work | Explain self assessment | * Complete self assessment * Help set up race track | * Assessment sheets | - self assessment and reflections |
| 1. Race day | * Compete in a friendly, sportspersonlike manner | Explain single knockout round  Assign race duties | * Spectate or do specific race duties | * Racing track apparatus | Video logs for E-portfolio |

**Rubrics: See last page**

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| fEBRUARY2018 | subject | Wood 6/7 | Block | 3/4 |

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| 20-30 % |  | 6/71  Lesson 1 |  | 6/72  Lesson 1 |  | 6/71  Lesson 2 |  | |  |  | | --- | --- | |  | 6/72  Lesson 2 | |  |  |  |  |
| Load | notes |  |  |  |  |  |  |  |  |  |  |  |
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| 20-30 % |  | 6/71  Lesson 3 |  | 6/72  Lesson 3 |  | 6/71  Lesson 4 |  | 6/72  Lesson 4 |  |  |  |  |
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| 40-50 % |  | Family Day |  | 6/72  Lesson 5 |  | 6/71  Lesson 5 |  | 6/72  Lesson 6 |  |  |  |  |
| Load | notes |  |  |  |  |  |  |  |  |  |  |  |
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| 40-50 % |  | 6/71  Lesson 6 |  | 6/72  Lesson 7 |  | 6/71  Lesson 7 |  | 6/72  Lesson 8 |  |  |  |  |
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| 60-70 % |  | 6/71  Lesson 8 |  | 6/72  Lesson 9 |  | 6/71  Lesson 9 |  |  |  |  |
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| 60-70 % |  |  |  |  |  |  |  | 6/72  Lesson 10 |  |  |  |  |
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| Full |  | 6/71  Lesson 10 |  | 6/72  Lesson 11 |  | 6/71  Lesson 11 |  | 6/72  Lesson 12 |  |  |  |  |
| Load | notes |  |  |  |  |  |  |  |  |  |  |  |
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| Full |  | 6/71  Lesson 12 |  | 6/72  Lesson 13 |  | 6/71  Lesson 13  Intro box project |  | 6/72  Lesson 14  Intro box project |  |  |  |  |
| Load | notes |  |  |  |  |  |  |  |  |  |  |  |
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| Full |  | 6/71  Lesson 14 |  | 6/72  Lesson 15 |  | 6/71  Lesson 15 |  | 6/72  open shop |  |  |  |  |
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|  |  | SPRING BREAK | | | | | | | | | | |
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| Full |  | 6/71  Race Day |  | 6/72  Race Day |  | 6/71  Continue box project |  | 6/72  Continue box project |  |  |  |  |
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| Phase out |  |  |  |  |  |  |  |  |  |  |  |  |
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Rubric for Woods Lab

(adapted from: https://fcsresources.wikispaces.com/file/view/Rubric+for+Foods+Lab.doc)

Names of group members\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Criteria/Scoring 1 2 3 4 5 6 7 8 9 10 Comments

**Poor Good Very Good Excellent**

## **Safety**

**-wore safety glasses 1 2 3 4 5 6 7 8 9 10**

**when appropriate?**

**-Tied back hair?**

**-No horseplay**

## **Cooperation**

**-worked well 1 2 3 4 5 6 7 8 9 10**

**with others**

**-Respect**

**-Divided tasks**

**equally**

**Time**

**Management 1 2 3 4 5 6 7 8 9 10**

**-managed time**

**wisely**

**-organized lab**

**-product was**

**finished during**

**class time**

## **Communication**

**-communicated 1 2 3 4 5 6 7 8 9 10**

**well with others**

**-positive attitude**

**Clean up1 2 3 4 5 6 7 8 9 10**

**-Lab was**

**left clean**

**-Tools were**

**put away in**

**the right location**

**-scraps, sawdust**

**Swept up**

**Project1 2 3 4 5 6 7 8 9 10**

***-*design**

**-originality**

**-effort/ATD?**

**- functioning?**

**Comments from group on labs: Total Score\_\_\_\_/60**