ROCKWOOD

ENGINEERING & Technology

Manufacturing

2nd Semester

Lesson Plans Mr. Kush

January 19

Manufacturing OBJECTIVES:	Students will be able to identify the steps of the design process. Students will be able to use the engineering design process to develop a small group idea for a manufacturing project. This idea will contain two different materials, be mass produced and sold for a profit. (Students need to bring three usable idea sketches for a manufacturing project for TODAY 10 pts each)
ACTIVITIES:	Small groups of three to discuss product ideas that they bring to class with them Vote or select the best product idea within the group Sketch basic plans with dimensions for the selected project
EVALUATION:	Inspection as students enter class of three product idea sketches 30 pts (assessed on effort) Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of project develop / sketches
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:



Manufacturing	
OBJECTIVES:	Students will be able to identify the steps of the design process. Students will be able to use the design process to develop independent ideas for a manufacturing project given specific criteria.
ACTIVITIES:	Independent idea development for 3 projects Sketch 3 basic plans with dimensions (due Tuesday 45 pts – 15 pts each)
EVALUATION:	
	Informal assessment of daily participation points Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of project develop / sketches
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

January 23

Manufacturing **OBJECTIVES**: Students will be able to use the design process to develop a small group idea for a manufacturing project to mass produce and sell which uses two different materials. (Students need to bring three good idea sketches for a manufacturing project for TODAY 15 pts each due at the beginning of the period) ACTIVITIES: Small groups of three to discuss product ideas that they bring to class with them Vote or select the best product idea within the group Sketch basic plans with dimensions for the selected project **EVALUATION:** Inspection as students enter class of three product idea sketches 30 pts (assessed on effort) Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties **ENRICHMENT**: Independent exploration of project develop / sketches ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students

Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

January 24

Manufacturing

- OBJECTIVES:(Day 2) Students will be able to use the design process to develop a small group idea for a
manufacturing project to mass produce and sell which uses two different materials.
Students will be able to finalize the drawings for the object to being prototype construction on
Wednesday after vacation.
- ACTIVITIES: Finalize basic plans with dimensions for the selected project
- EVALUATION:Inspection as students enter class of three product idea sketches 30 pts (assessed on effort)Informal assessment of daily participation points / class participation within a groupAssessment of Clean Up duties
- **ENRICHMENT**: Independent exploration of project develop / sketches

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

January 25

- OBJECTIVES:Students will be able to use the design process to develop a small group idea for a
manufacturing project to mass produce and sell which uses two different materials.
(Students need to bring three good idea sketches for a manufacturing project for TODAY 15
pts each due at the beginning of the period)
- ACTIVITIES: Small groups of three to discuss product ideas that they bring to class with them Vote or select the best product idea within the group Sketch basic plans with dimensions for the selected project
- EVALUATION:Inspection as students enter class of three product idea sketches 30 pts (assessed on effort)Informal assessment of daily participation points / class participation within a groupAssessment of Clean Up duties

ENRICHMENT:

Independent exploration of project develop / sketches

PA Academic Standards for Science and Technology and Engineering Education:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

January 26

Manufacturing

- **OBJECTIVES**: Students will be able to create a scaled prototype drawing with the Orthographic views of front, side, top, bottom based on their selected manufacturing project proposal.
- ACTIVITIES:Student selected groups of 3Finalize vote or select the best product idea within the groupUsing the proper tools and techniques, draw the Orthographic views in scaleStudents will decide on the three most important views and create drawings for them eachgroup member will be responsible for one view drawing
- EVALUATION:Informal assessment of sketches to drawing and use of scale and mechanical drawing toolsInformal assessment of daily participation points / class participation within a groupAssessment of Clean Up duties

ENRICHMENT: Independent exploration of project develop / sketches

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

January 27

Manufacturing **OBJECTIVES:** (2nd Day) Students will be able to create a scaled prototype drawing with the Orthographic views of front, side, top, bottom based on their selected manufacturing project proposal. **ACTIVITIES**: Student selected groups of 3 Finalize vote or select the best product idea within the group Using the proper tools and techniques, draw the Orthographic views in scale Students will decide on the three most important views and create drawings for them – each group member will be responsible for one view drawing **EVALUATION:** Informal assessment of sketches to drawing and use of scale and mechanical drawing tools Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties **ENRICHMENT:** Independent exploration of project develop / sketches

ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

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3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

January 30

Manufacturing

OBJECTIVES: (3nd Day) Students will be able to create a scaled prototype drawing with the Orthographic views of front, side, top, bottom based on their selected manufacturing project proposal. **ACTIVITIES**: Student selected groups of 3 Using the proper tools and techniques, draw the Orthographic views in scale Students will decide on the three most important views and create drawings for them – each group member will be responsible for one view drawing **EVALUATION:** Informal assessment of sketches to drawing and use of scale and mechanical drawing tools Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties ENRICHMENT: Independent exploration of project develop / sketches ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary **Modified Tests & Quizzes** Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

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Manufacturing

- **OBJECTIVES**: (4th Day) Students will be able to create a scaled prototype drawing with the Orthographic views of front, side, top, bottom based on their selected manufacturing project proposal.
- ACTIVITIES: Student selected groups of 3 Using the proper tools and techniques, draw the Orthographic views in scale Students will decide on the three most important views and create drawings for them – each group member will be responsible for one view drawing
- **EVALUATION**: Informal assessment of sketches to drawing and use of scale and mechanical drawing tools Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
- **ENRICHMENT**: Independent exploration of project develop / sketches
- ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

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February 1

Manufacturing OBJECTIVES:	(1 st Day) After view drawings have been assessed and given the "GO" student groups will be able to select stock and begin to create their mock-ups base on their Orthographic drawings.
ACTIVITIES:	Assessment of group drawings Students selected groups of three will select stock and being developing their mock-up based on their completed drawings
EVALUATION:	Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of project development / mock-ups
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room

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February 2

Manufacturing

OBJECTIVES: (2st Day) After view drawings have been assessed and given the "GO" student groups will be able to select stock and begin to create their mock-ups base on their Orthographic drawings. **ACTIVITIES:** Assessment of group drawings Students selected groups of three will select stock and being developing their mock-up based on their completed drawings **EVALUATION:** Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties Independent exploration of project development / mock-ups **ENRICHMENT:** Additional time to complete tasks / tests / guizzes / assignments ACCOMMODATIONS: T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

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3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

February 3

Manufacturing

OBJECTIVES: (3rd Day) After view drawings have been assessed and given the "GO" student groups will be able to select stock and begin to create their mock-ups base on their Orthographic drawings.

ACTIVITIES: Assessment of group drawings

Students selected groups of three will select stock and being developing their mock-up based on their completed drawings **EVALUATION:** Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties **ENRICHMENT**: Independent exploration of project development / mock-ups ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary **Modified Tests & Quizzes** Breaking up larger assignments into smaller manageable pieces

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3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

February 6

Manufacturing OBJECTIVES:	(3 rd Day) Student groups will be able to construct their mock-ups base on their Orthographic drawings for the mass production manufacturing project. Mock-up must be completed by Monday, Dec 21.
ACTIVITIES :	Construct mock-up based on their completed drawings
EVALUATION:	Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of project development / mock-ups
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

February 7

Manufacturing	
OBJECTIVES:	(4 th Day) Student groups will be able to construct their mock-ups base on their Orthographic drawings for the mass production manufacturing project. Mock-up must be completed by Monday, Dec 21.
ACTIVITIES:	Construct mock-up based on their completed drawings
EVALUATION:	Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of project development / mock-ups
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students
	Option for students to take formal assessments taken in the Learning Support room
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February 8

OBJECTIVES:	(5 th Day) Student groups will be able to construct their mock-ups base on their Orthographic drawings for the mass production manufacturing project. Mock-up must be completed by Monday, Dec 21.
ACTIVITIES:	Construct mock-up based on their completed drawings
EVALUATION:	Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of project development / mock-ups
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room

Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

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3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

February 9

Manufacturing

OBJECTIVES:	(6 th Day) Student groups will be able to construct their mock-ups base on their Orthographic drawings for the mass production manufacturing project. Mock-up must be completed by Monday, Dec 21 by the end of class.
ACTIVITIES:	Construct mock-up based on their completed drawings
EVALUATION:	Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of project development / mock-ups
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:



Manufacturing

OBJECTIVES:	(FINAL Day) Student groups will be able to construct their mock-ups base on their Orthographic drawings for the mass production manufacturing project. Mock-up must be completed by Monday, Dec 21.
ACTIVITIES:	Construct mock-up based on their completed drawings
EVALUATION:	Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of project development / mock-ups
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

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3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

February 13

OBJECTIVES:	Student groups will present and promote their completed mock-up to the class to be selected as the mass produced class project.
ACTIVITIES:	Group Presentations
EVALUATION:	Assessment of presentation Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of project development / mock-ups
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes

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February 14

Manufacturing OBJECTIVES:	Student groups will present and promote their completed mock-up to the class to be selected as the mass produced class project.
ACTIVITIES:	Students will use the handout to guide their presentation and responsibility for the information Group Presentations
EVALUATION:	Assessment of presentation Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of project development / mock-ups
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

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February 15

Manufacturing

- **OBJECTIVES**: Students will be able to select the final product for mass production. Students will then be able to develop positive changes for the final product and begin to finalize the working sketches for the product dimensions.
- ACTIVITIES:Select by vote for the final productDevelop positive changes for the final product design and customer optionsFinalize the working sketches for the product dimensions.

EVALUATION: Assessment of productivity

Informal assessment of daily participation points / class participation within a group
Assessment of Clean Up dutiesENRICHMENT:Independent exploration of project development / working sketchesACCOMMODATIONS:Additional time to complete tasks / tests / quizzes / assignments
T /F Safety tests read to all students
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February 16

Manufacturing **OBJECTIVES:** Students will be able to develop the process sheet for the select mass production product **ACTIVITIES**: develop the process sheet (order of material processing and the equipment used for it) **EVALUATION:** Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties **ENRICHMENT:** Independent exploration of project development / working sketches ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

February	17
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Manufacturing

- **OBJECTIVES**: (2nd Day) Students will be able to develop the process sheet for the select mass production product and select responsibilities for the jobs.
- ACTIVITIES: develop the process sheet (order of material processing and the equipment used for it) Student select process responsibilities
- EVALUATION:Assessment of productivity
Informal assessment of daily participation points / class participation within a group
Assessment of Clean Up duties
- **ENRICHMENT**: Independent exploration of project development / working sketches
- ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

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February 21

OBJECTIVES:	Students will be able to develop the sketches for their fixture / jig to process their selected operation
ACTIVITIES :	develop the sketches for their fixture / jig to process their selected operation
EVALUATION:	Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of project development / working sketches
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary

Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

February 22

Manufacturing

- **OBJECTIVES**: Student groups will be able to continue to present and promote their completed mock-up to the class to be selected as the mass produced class project. Students will then be able to select the class mass production project and officer positions.
- ACTIVITIES: Students will use the handout to guide their presentation and responsibility for the information Group Presentations Secret ballot for product selection Officer nominations and vote selection
- EVALUATION:Assessment of presentationInformal assessment of daily participation points / class participation within a groupAssessment of Clean Up duties
- **ENRICHMENT**: Independent exploration of project development / mock-ups

ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

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February 23

Manufacturing

OBJECTIVES: Students will be able to develop the order of machine operations of the process sheet for the class selected mass production product. Students will be able to develop final changes to the product. Students will be able to develop final sketches for the modified product design.

ACTIVITIES: Develop positive changes for the final product design and customer options

	Finalize the working sketches for the product dimensions Develop machine operations of the process sheet for the class selected mass production product
EVALUATION:	Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of project development / working sketches
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

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February 24

Manufacturing	
OBJECTIVES:	Students will be able to develop the order of machine operations of the process sheet for the class selected mass production product. Students will be able to develop final changes to the product. Students will be able to develop final sketches for the modified product design.
ACTIVITIES:	Develop positive changes for the final product design and customer options Finalize the working sketches for the product dimensions Develop machine operations of the process sheet for the class selected mass production product
EVALUATION:	Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of project development / working sketches
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary

Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

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February 27

Manufacturing

- OBJECTIVES: (Continued) Students will be able to develop the order of machine operations of the process sheet for the class selected mass production product. Students will be able to develop final changes to the product. Students will be able to develop final sketches for the modified product design.
- ACTIVITIES: Develop positive changes for the final product design and customer options Finalize the working sketches for the product dimensions Develop machine operations of the process sheet for the class selected mass production product
- EVALUATION:Assessment of productivity
Informal assessment of daily participation points / class participation within a group
Assessment of Clean Up duties
- **ENRICHMENT**: Independent exploration of project development / working sketches
- ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

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February 28

Manufacturing

OBJECTIVES: Students will be able to develop the sketches for their fixture / jig to process their selected operation

ACTIVITIES: develop the sketches for their fixture / jig to process their selected operation

EVALUATION:Assessment of productivity
Informal assessment of daily participation points / class participation within a group
Assessment of Clean Up duties

ENRICHMENT: Independent exploration of project development / working sketches

ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 1

OBJECTIVES :	Students will be able to meet the specific responsibilities according to their elected position. Students will be able to research, design, and decide on project specifications.
ACTIVITIES:	Develop positive changes for the final product design and customer options Determine materials necessary and availability Research and contact vendors for prices and potential sources Develop spreadsheets for customer order tracking, options, sales, expenses Develop spreadsheets for accounting inventory of materials and associated costs Develop potential company names and a company logo Develop the working sketches for the product and each part of it
EVALUATION:	Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary

Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 2

Manufacturing

OBJECTIVES:	(2 nd Day) Students will be able to meet the specific responsibilities according to their elected position.
	Students will be able to research, design, and decide on project specifications.
ACTIVITIES :	Develop positive changes for the final product design and customer options
	Determine materials necessary and availability
	Research and contact vendors for prices and potential sources
	Develop spreadsheets for customer order tracking, options, sales, expenses
	Develop spreadsheets for accounting inventory of materials and associated costs
	Develop potential company names and a company logo
	Develop the working sketches for the product and each part of it
EVALUATION:	Assessment of productivity
	Informal assessment of daily participation points / class participation within a group
	Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments
	T /F Safety tests read to all students
	Option for students to take formal assessments taken in the Learning Support room
	Option for preferential seating
	Option for individual guidance
	Verbal presentation of reading material by aid when present
	Additional time to complete assignments as necessary
	Modified Tests & Quizzes
	Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:



Manufacturing

OBJECTIVES:	(3 rd Day) Students will be able to meet the specific responsibilities according to their elected position.
	Students will be able to research, design, and decide on project specifications.
ACTIVITIES:	Develop positive changes for the final product design and customer options
	Determine materials necessary and availability
	Research and contact vendors for prices and potential sources
	Develop spreadsheets for customer order tracking, options, sales, expenses
	Develop spreadsheets for accounting inventory of materials and associated costs
	Develop potential company names and a company logo
	Develop the working sketches for the product and each part of it
EVALUATION:	Assessment of productivity
	Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
	Additional time to complete tasks / tests / quizzes / assignments
Accommodations.	T /F Safety tests read to all students
	Ontion for students to take formal assessments taken in the Learning Support room
	Option for preferential seating
	Option for individual guidance
	Verbal presentation of reading material by aid when present
	Additional time to complete assignments as necessary
	Modified Tasts & Quizzas
	Progling un larger assignments into smaller managoable pieces
	Dieaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 6

OBJECTIVES:	(4 th Day) Students will be able to meet the specific responsibilities according to their elected position. Students will be able to research, design, and decide on project specifications.
ACTIVITIES:	Develop positive changes for the final product design and customer options Determine materials necessary and availability Research and contact vendors for prices and potential sources Develop spreadsheets for customer order tracking, options, sales, expenses Develop spreadsheets for accounting inventory of materials and associated costs Develop potential company names and a company logo

 Develop the working sketches for the product and each part of it

 EVALUATION:
 Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties

 ENRICHMENT:
 Independent exploration of the manufacturing process

 ACCOMMODATIONS:
 Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes

Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 7

OBJECTIVES:	(4 th Day) Students will be able to meet the specific responsibilities according to their elected position.
	Students will be able to research, design, and decide on project specifications.
ACTIVITIES:	Develop positive changes for the final product design and customer options Determine materials necessary and availability Research and contact vendors for prices and potential sources Develop spreadsheets for customer order tracking, options, sales, expenses Develop spreadsheets for accounting inventory of materials and associated costs Develop potential company names and a company logo Develop the working sketches for the product and each part of it
EVALUATION:	Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance

Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 8

Manufacturing

OBJECTIVES:	(5 th day)Students will be able to meet the specific responsibilities according to their elected position.
	Students will be able to research, design, and decide on project specifications.
ACTIVITIES:	Develop positive changes for the final product design and customer options
	Determine materials necessary and availability
	Research and contact vendors for prices and potential sources
	Develop spreadsheets for customer order tracking, options, sales, expenses
	Develop spreadsheets for accounting inventory of materials and associated costs
	Develop potential company names and a company logo
	Develop the working sketches for the product and each part of it
EVALUATION:	Assessment of productivity
	Informal assessment of daily participation points / class participation within a group
	Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS.	Additional time to complete tasks / tests / quizzes / assignments
	T /F Safety tests read to all students
	Option for students to take formal assessments taken in the Learning Support room
	Option for preferential seating
	Option for individual guidance
	Verbal presentation of reading material by aid when present
	Additional time to complete assignments as necessary
	Modified Tests & Quizzes
	Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:



Manufacturing

OBJECTIVES:	(6th Day) Students will be able to meet the specific responsibilities according to their elected position.
	Students will be able to research, design, and decide on project specifications.
ACTIVITIES :	Develop positive changes for the final product design and customer options
	Determine materials necessary and availability
	Research and contact vendors for prices and potential sources
	Develop spreadsheets for customer order tracking, options, sales, expenses
	Develop spreadsheets for accounting inventory of materials and associated costs
	Develop potential company names and a company logo
	Develop the working sketches for the product and each part of it
EVALUATION:	Assessment of productivity
	Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
	Additional time to complete tasks / tests / quizzes / assignments
Accommodations.	T /F Safety tests read to all students
	Ontion for students to take formal assessments taken in the Learning Support room
	Ontion for preferential seating
	Ontion for individual guidance
	Verbal presentation of reading material by aid when present
	Additional time to complete assignments as necessary
	Modified Tests & Quizzes
	Breaking up larger assignments into smaller manageable pieces
	Breaking ap larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 10

OBJECTIVES:	(7 th Day) Students will be able to meet the specific responsibilities according to their elected position. Students will be able to research, design, and decide on project specifications.
ACTIVITIES:	Develop positive changes for the final product design and customer options Determine materials necessary and availability Research and contact vendors for prices and potential sources
	Develop spreadsheets for customer order tracking, options, sales, expenses Develop spreadsheets for accounting inventory of materials and associated costs Develop potential company names and a company logo

 Develop the working sketches for the product and each part of it

 EVALUATION:
 Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties

 ENRICHMENT:
 Independent exploration of the manufacturing process

 ACCOMMODATIONS:
 Additional time to complete tasks / tests / quizzes / assignments T /E Safety tests read to all students

T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 13

OBJECTIVES:	(FINAL DAY) Students will be able to meet the specific responsibilities according to their elected position.
	Students will be able to research, design, and decide on project specifications.
ACTIVITIES :	Develop positive changes for the final product design and customer options
	Determine materials necessary and availability
	Research and contact vendors for prices and potential sources
	Develop spreadsheets for customer order tracking, options, sales, expenses
	Develop spreadsheets for accounting inventory of materials and associated costs
	Develop potential company names and a company logo
	Develop the working sketches for the product and each part of it
EVALUATION:	Assessment of productivity
	Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS.	Additional time to complete tasks / tests / quizzes / assignments
	T /F Safety tests read to all students
	Ontion for students to take formal assessments taken in the Learning Support room
	Ontion for preferential seating
	Ontion for individual guidance

Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes

Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 14

Manufacturing

Students will be able to develop the order of operations for the process sheet. **OBJECTIVES: ACTIVITIES**: Develop the order of operations to process rough stock to finished dimensions **EVALUATION:** Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties **ENRICHMENT**: Independent exploration of the manufacturing process ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary **Modified Tests & Quizzes** Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 15

Manufacturing

OBJECTIVES: Students will be able to select their machine process and develop basic sketches for their fixtures.

ACTIVITIES: Select machine process responsibility

	Develop sketches for the necessary fixtures Research for fixture plans
EVALUATION:	Assessment of productivity Informal check on fixture sketches – formal when completed for 30 points Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

<mark>March 16</mark>

OBJECTIVES:	Students will begin to develop their fixtures
ACTIVITIES:	use hardwood to develop fixtures
EVALUATION:	Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 17

Manufacturing

OBJECTIVES:	(7 th Day) Students will be able to meet the specific responsibilities according to their elected position.
	Students will be able to research, design, and decide on project specifications.
ACTIVITIES:	Develop positive changes for the final product design and customer options Determine materials necessary and availability Research and contact vendors for prices and potential sources Develop spreadsheets for customer order tracking, options, sales, expenses Develop spreadsheets for accounting inventory of materials and associated costs
	Develop the working sketches for the product and each part of it
EVALUATION:	Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 20

Manufacturing

OBJECTIVES: Students will be able to assess our manufacturing process based on the manufacturing handout.

ACTIVITIES: Students will complete the "Making a Product using Mass Production" handout and guide. Students will then assess through discussion our current status.

EVALUATION:	Collection of the completed guide for 50 points
	Assessment of productivity
	Informal assessment of daily participation points / class participation within a group
	Assessment of Clean Up duties

ENRICHMENT: Independent exploration of the manufacturing process

ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 21

OBJECTIVES:	Students will be able to create a Flow Process chart based on a part from their manufacturing mockups.
ACTIVITIES :	Discuss and analyze the function and purposes of a flow process chart In groups, students will create a Flow Process chart based on a part from their manufacturing mockups.
EVALUATION:	Collection of the practice flow process chart for 20 points Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 22

Manufacturing

OBJECTIVES: Students will be able to create a Flow Process chart based on a part from their manufacturing mockups. **ACTIVITIES**: Discuss and analyze the function and purposes of a flow process chart In groups, students will create a Flow Process chart based on a part from their manufacturing mockups. **EVALUATION:** Collection of the practice flow process chart for 20 points Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties **ENRICHMENT**: Independent exploration of the manufacturing process ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary **Modified Tests & Quizzes** Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 23

- OBJECTIVES:Students will be able to select manufacturing responsibilities from the "Engineering
Assignments" document. Students will then be able to begin to developing their assigned
fixtures and inspection gauges.
- ACTIVITIES: Discuss and analyze the Engineering Assignments chart Select individual jobs from the form

	Discuss the function of fixtures and inspection gauges
EVALUATION:	
	Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

<mark>March 24</mark>

OBJECTIVES:	(2 nd Day) Students will be able to select manufacturing responsibilities from the "Engineering Assignments" document. Students will then be able to begin to developing their assigned fixtures and inspection gauges.
ACTIVITIES:	Discuss and analyze the Engineering Assignments chart Select individual jobs from the form Discuss the function of fixtures and inspection gauges
EVALUATION:	Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 27

Manufacturing

- OBJECTIVES:Students will be able to design the necessary fixtures, templates, jigs, tooling, and inspection
gauges for their elected manufacturing processes.ACTIVITIES:Students will select jobs from the "Engineering Assignments" flow process chart. Students will
then sketch designs for the necessary , templates, jigs, tooling, and inspection gauges for their
elected manufacturing processes. Students will confer with Mr. Kush on their designs for
approval. The designs will be evaluated for points.
- **EVALUATION:** Assessment of fixtures, templates, jigs, tooling, and inspection gauges sketches Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties ENRICHMENT: Independent exploration of the manufacturing process ACCOMMODATIONS: Additional time to complete tasks / tests / guizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary **Modified Tests & Quizzes** Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

March 28

Manufacturing

- OBJECTIVES:(2nd Day) Students will be able to design the necessary fixtures, templates, jigs, tooling, and
inspection gauges for their elected manufacturing processes.
- ACTIVITIES: Students will select jobs from the "Engineering Assignments" flow process chart. Students will then sketch designs for the necessary, templates, jigs, tooling, and inspection gauges for their elected manufacturing processes. Students will confer with Mr. Kush on their designs for approval. The designs will be evaluated for points.
- EVALUATION:Assessment of fixtures, templates, jigs, tooling, and inspection gauges sketches
Assessment of productivity, Informal assessment of daily participation points / class
participation within a group, Assessment of Clean Up duties
- **ENRICHMENT**: Independent exploration of the manufacturing process

ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 29

Manufacturing

- **OBJECTIVES**: Students will be able to process rough stock according to the design sketch specification to create the fixtures, templates, jigs, tooling, and inspection gauges for their elected manufacturing processes.
- ACTIVITIES: Process rough stock according to design sketches
- **EVALUATION**: Collection of the practice flow process chart for 20 points

Assessment of productivity

Informal assessment of daily participation points / class participation within a group

Assessment of Clean Up duties

ENRICHMENT: Independent exploration of the manufacturing process

ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 30

Students will be able to select manufacturing responsibilities from the "Engineering Assignments" document. Students will then be able to begin to developing their assigned fixtures and inspection gauges.
Discuss and analyze the Engineering Assignments chart
Select individual jobs from the form
Discuss the function of fixtures and inspection gauges
Assessment of productivity
Informal assessment of daily participation points / class participation within a group
Assessment of Clean Up duties
Independent exploration of the manufacturing process
Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

March 31

Manufacturing

(2nd Day) Students will be able to select manufacturing responsibilities from the "Engineering **OBJECTIVES:** Assignments" document. Students will then be able to begin to developing their assigned fixtures and inspection gauges. **ACTIVITIES:** Discuss and analyze the Engineering Assignments chart Select individual jobs from the form Discuss the function of fixtures and inspection gauges **EVALUATION:** Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties **ENRICHMENT:** Independent exploration of the manufacturing process ACCOMMODATIONS: Additional time to complete tasks / tests / guizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

<mark>April 3</mark>

- **OBJECTIVES**: Students will be able to continue developing their assigned fixtures, tooling, and inspection gauges.
- ACTIVITIES: Review of "Squaring of Stock Procedures" Quiz

	Independent development of assigned fixtures, tooling, and inspection gauges based on their sketches and measurements
EVALUATION :	Assessment of "Squaring of Stock Procedures" – Quiz
	Assessment of productivity
	Informal assessment of daily participation points / class participation within a group
	Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

<mark>April 4</mark>

OBJECTIVES:	(2 nd day) Students will be able to continue developing their assigned fixtures, tooling, and inspection gauges.
ACTIVITIES:	Review of "Squaring of Stock Procedures" – Quiz (2 nd Quiz on same topic)
	Independent development of assigned fixtures, tooling, and inspection gauges based on their sketches and measurements
EVALUATION:	Assessment of "Squaring of Stock Procedures" – Quiz #2
	Assessment of productivity
	Informal assessment of daily participation points / class participation within a group
	Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room

Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

<mark>April 5</mark>

Manufacturing

(3rd day) Students will be able to continue developing their assigned fixtures, tooling, and **OBJECTIVES:** inspection gauges. **ACTIVITIES**: (Depending on results from Tuesday's quizzes) Review of "Squaring of Stock Procedures" - Quiz (3rd Quiz on same topic) Independent development of assigned fixtures, tooling, and inspection gauges based on their sketches and measurements **EVALUATION:** Assessment of "Squaring of Stock Procedures" - Quiz #3 Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties **ENRICHMENT:** Independent exploration of the manufacturing process ACCOMMODATIONS: Additional time to complete tasks / tests / guizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary **Modified Tests & Quizzes** Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:



Manufacturing

OBJECTIVES:	(4 th day) Students will be able to continue developing their assigned fixtures, tooling, and inspection gauges.
ACTIVITIES:	(Depending on results from Wednesday's quizzes) Review of "Squaring of Stock Procedures" – Quiz (4 th Quiz on same topic)
	Independent development of assigned fixtures, tooling, and inspection gauges based on their sketches and measurements
EVALUATION:	Assessment of "Squaring of Stock Procedures" – Quiz #4
	Assessment of productivity
	Informal assessment of daily participation points / class participation within a group
	Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary
	Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

<mark>April 11</mark>

Manufacturing

 OBJECTIVES:
 (5th day) Students will be able to continue developing their assigned fixtures, tooling, and inspection gauges.

 ACTIVITIES:
 (Depending on results from Thursday's quizzes) Review of "Squaring of Stock Procedures" – Quiz (5th Quiz on same topic)

 Independent development of assigned fixtures, tooling, and inspection gauges based on their sketches and measurements

EVALUATION:	Assessment of "Squaring of Stock Procedures" – Quiz #5
	Assessment of productivity
	Informal assessment of daily participation points / class participation within a group
	Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

<mark>April 12</mark>

OBJECTIVES:	(6 th Day) Students will be able to continue developing their assigned fixtures, tooling, and inspection gauges based on their initial sketches and dimensions.
ACTIVITIES:	Independent development of assigned fixtures, tooling, and inspection gauges based on their sketches and measurements
EVALUATION :	Assessment of productivity
	Informal assessment of daily participation points / class participation within a group
	Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

<mark>April 13</mark>

Manufacturing

OBJECTIVES: (7th Day) Students will be able to continue developing their assigned fixtures, tooling, and inspection gauges. **ACTIVITIES**: Independent development of assigned fixtures, tooling, and inspection gauges based on their sketches and measurements **EVALUATION:** Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties **ENRICHMENT:** Independent exploration of the manufacturing process ACCOMMODATIONS: Additional time to complete tasks / tests / guizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary **Modified Tests & Quizzes** Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

<mark>April 14</mark>

- **OBJECTIVES**: (8th Day) Students will be able to continue developing their assigned fixtures, tooling, and inspection gauges.
- ACTIVITIES: Independent development of assigned fixtures, tooling, and inspection gauges based on their sketches and measurements
- EVALUATION: Assessment of productivity

Informal assessment of daily participation points / class participation within a group

Assessment of Clean Up duties

ENRICHMENT: Independent exploration of the manufacturing process

ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

<mark>April 17</mark>

Manufacturing

- **OBJECTIVES**: (9th day) Students will be able to continue developing their assigned fixtures, tooling, and inspection gauges.
- ACTIVITIES: Independent development of assigned fixtures, tooling, and inspection gauges based on their sketches and measurements
- **EVALUATION**: Assessment of productivity

Informal assessment of daily participation points / class participation within a group

Assessment of Clean Up duties

ENRICHMENT: Independent exploration of the manufacturing process

ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

April 18

Manufacturing

OBJECTIVES:	(10 th day) Students will be able to continue developing their assigned fixtures, tooling, and inspection gauges.
ACTIVITIES:	(Depending on results from Thursday's quizzes) Review of "Squaring of Stock Procedures" – Quiz (5 th Quiz on same topic)
	Independent development of assigned fixtures, tooling, and inspection gauges based on their sketches and measurements
EVALUATION :	Assessment of "Squaring of Stock Procedures" – Quiz #5
	Assessment of productivity
	Informal assessment of daily participation points / class participation within a group
	Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students
	Option for students to take formal assessments taken in the Learning Support room
	Option for preferential seating
	Option for individual guidance Verbal presentation of reading material by aid when present
	Additional time to complete assignments as necessary
	Modified Tests & Quizzes
	Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

<mark>April 19</mark>

Manufacturing

OBJECTIVES:(11th Day) Students will be able to continue developing their assigned fixtures, tooling, and
inspection gauges based on their initial sketches and dimensions.ACTIVITIES:Independent development of assigned fixtures, tooling, and inspection gauges based on their
sketches and measurementsEVALUATION:Assessment of productivity

Informal assessment of daily participation points / class participation within a group

Assessment of Clean Up duties

ENRICHMENT: Independent exploration of the manufacturing process

ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

<mark>April 20</mark>

Manufacturing

- **OBJECTIVES**: (12th Day) Students will be able to continue developing their assigned fixtures, tooling, and inspection gauges.
- ACTIVITIES: Independent development of assigned fixtures, tooling, and inspection gauges based on their sketches and measurements
- **EVALUATION**: Assessment of productivity

Informal assessment of daily participation points / class participation within a group

Assessment of Clean Up duties

ENRICHMENT: Independent exploration of the manufacturing process

ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

April 21

Manufacturing

OBJECTIVES: (13th day) Students will be able to continue developing their assigned fixtures, tooling, and inspection gauges. **ACTIVITIES**: Independent development of assigned fixtures, tooling, and inspection gauges based on their sketches and measurements **EVALUATION:** Assessment of productivity Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties **ENRICHMENT:** Independent exploration of the manufacturing process **ACCOMMODATIONS:** Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

April 24

Manufacturing

- **OBJECTIVES**:(14th day) Students will be able to continue developing their assigned fixtures, tooling, and
inspection gauges.
- ACTIVITIES: Independent development of assigned fixtures, tooling, and inspection gauges based on their sketches and measurements
- **EVALUATION**: Assessment of productivity

Informal assessment of daily participation points / class participation within a group

Assessment of Clean Up duties

ENRICHMENT: Independent exploration of the manufacturing process

ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

April 25

Manufacturing

OBJECTIVES:	(15 th Day) Students will be able to continue developing their assigned fixtures, tooling, and inspection gauges based on their initial sketches and dimensions.
ACTIVITIES:	Independent development of assigned fixtures, tooling, and inspection gauges based on their sketches and measurements
EVALUATION:	Assessment of productivity
	Informal assessment of daily participation points / class participation within a group
	Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:



Manufacturing

- OBJECTIVES:(15th Day) Students will be able to continue developing their assigned fixtures, tooling, and
inspection gauges based on their initial sketches and dimensions.
- ACTIVITIES: Independent development of assigned fixtures, tooling, and inspection gauges based on their sketches and measurements
- EVALUATION:
 Assessment of productivity

 Informal assessment of daily participation points / class participation within a group

 Assessment of Clean Up duties

 ENRICHMENT:
 Independent exploration of the manufacturing process

 ACCOMMODATIONS:
 Additional time to complete tasks / tests / quizzes / assignments

 T /F Safety tests read to all students
 Option for students to take formal assessments taken in the Learning Support room

 Option for individual guidance
 Verbal presentation of reading material by aid when present

 Additional time to complete assignments as necessary
 Modified Tests & Quizzes

 Breaking up larger assignments into smaller manageable pieces
 Breaking up larger assignments

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

April 27

Manufacturing

- **OBJECTIVES**: (16th Day) Students will be able to continue developing their assigned fixtures, tooling, and inspection gauges.
- ACTIVITIES: Independent development of assigned fixtures, tooling, and inspection gauges based on their sketches and measurements
- **EVALUATION**: Assessment of productivity

Informal assessment of daily participation points / class participation within a group

Assessment of Clean Up duties

ENRICHMENT: Independent exploration of the manufacturing process

ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

April 28

Manufacturing

OBJECTIVES: (Pending completion of fixtures etc.) Students will be able to begin the trial run for the manufacturing process. Students will be able to make necessary adjustments to the jigs, fixtures, and tooling that they designed during the trial run. The trial run will be a three day process. Trial manufacturing run for the __MANUFACTURING_PROJECT__ project while making the **ACTIVITIES**: necessary adjustments to the student developed jigs, fixtures, and tooling **EVALUATION:** Assessment of productivity and necessary adjustments Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties Independent exploration of the manufacturing process **ENRICHMENT**: ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary **Modified Tests & Quizzes** Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:



Manufacturing

OBJECTIVES: Day 2 Students will be able to begin the trial run for the manufacturing process. Students will be able to make necessary adjustments to the jigs, fixtures, and tooling that they designed during the trial run. The trial run will be a three day process. **ACTIVITIES:** Trial manufacturing run for the MANUFACTURING PROJECT project while making the necessary adjustments to the student developed jigs, fixtures, and tooling **EVALUATION:** Assessment of productivity and necessary adjustments Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties **ENRICHMENT:** Independent exploration of the manufacturing process ACCOMMODATIONS: Additional time to complete tasks / tests / guizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

May 2

Manufacturing

 OBJECTIVES:
 Day 3 Students will be able to begin the trial run for the manufacturing process. Students will be able to make necessary adjustments to the jigs, fixtures, and tooling that they designed during the trial run. The trial run will be a three day process.

 ACTIVITIES:
 Trial manufacturing run for the __MANUFACTURING_PROJECT__ project while making the necessary adjustments to the student developed jigs, fixtures, and tooling

 EVALUATION:
 Assessment of productivity and necessary adjustments

 Informal assessment of daily participation points / class participation within a group

 Assessment of Clean Up duties

 ENRICHMENT:
 Independent exploration of the manufacturing process

ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

May 3

Manufacturing

OBJECTIVES:	Students will be to apply their fixtures, jigs, and tooling to mass produce their selected project /MANUFACTURING_PROJECT). Students will be able to produce their student selected part and determine if it is GO / NO GO based on previously determined specifications and their inspection gauge.
ACTIVITIES:	manufacturing run for theMANUFACTURING_PROJECT project while making the necessary adjustments to the student developed jigs, fixtures, and tooling
EVALUATION:	Assessment of productivity and necessary adjustments
	Informal assessment of daily participation points / class participation within a group
	Assessment of Clean Up duties
ENRICHMENT:	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:



Manufacturing

Manufacturing

- OBJECTIVES:
 (2nd Day) Students will be to apply their fixtures, jigs, and tooling to mass produce their selected project / __MANUFACTURING_PROJECT__). Students will be able to produce their student selected part and determine if it is GO / NO GO based on previously determined specifications and their inspection gauge.
- ACTIVITIES: manufacturing run for the __MANUFACTURING_PROJECT__ project while making the necessary adjustments to the student developed jigs, fixtures, and tooling
- EVALUATION: Assessment of productivity and necessary adjustments Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties **ENRICHMENT**: Independent exploration of the manufacturing process ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary **Modified Tests & Quizzes** Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

May 5

OBJECTIVES:(3rd Day) Students will be to apply their fixtures, jigs, and tooling to mass produce their selected
project / __MANUFACTURING_PROJECT__). Students will be able to produce their student
selected part and determine if it is GO / NO GO based on previously determined specifications
and their inspection gauge.ACTIVITIES:manufacturing run for the __MANUFACTURING_PROJECT__ project while making the necessary
adjustments to the student developed jigs, fixtures, and toolingEVALUATION:Assessment of productivity and necessary adjustments

Informal assessment of daily participation points / class participation within a group

Assessment of Clean Up duties

ENRICHMENT: Independent exploration of the manufacturing process

ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

May 8

OBJECTIVES:	Students will be to apply their fixtures, jigs, and tooling to mass produce their selected project /MANUFACTURING_PROJECT). Students will be able to produce their student selected part and determine if it is GO / NO GO based on previously determined specifications and their inspection gauge.
ACTIVITIES:	manufacturing run for theMANUFACTURING_PROJECT project while making the necessary adjustments to the student developed jigs, fixtures, and tooling
EVALUATION:	Assessment of productivity and necessary adjustments
	Informal assessment of daily participation points / class participation within a group
	Assessment of Clean Up duties
ENRICHMENT :	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

May 9

Manufacturing

- OBJECTIVES:
 Students will be to apply their fixtures, jigs, and tooling to mass produce their selected project /

 ____MANUFACTURING_PROJECT____).
 Students will be able to produce their student selected part

 and determine if it is GO / NO GO based on previously determined specifications and their
 inspection gauge.
- ACTIVITIES: manufacturing run for the MANUFACTURING PROJECT project while making the necessary adjustments to the student developed jigs, fixtures, and tooling EVALUATION: Assessment of productivity and necessary adjustments Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties **ENRICHMENT**: Independent exploration of the manufacturing process **ACCOMMODATIONS:** Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

Breaking up larger assignments into smaller manageable pieces

May 10

- OBJECTIVES: Students will be able to continue the trial run for the manufacturing process. Students will be able to make necessary adjustments to the jigs, fixtures, and tooling that they designed as needed.
- ACTIVITIES: Trial manufacturing run for the __MANUFACTURING_PROJECT__ project while making the necessary adjustments to the student developed jigs, fixtures, and tooling

EVALUATION:Assessment of productivity and necessary adjustmentsInformal assessment of daily participation points / class participation within a groupAssessment of Clean Up dutiesENRICHMENT:Independent exploration of the manufacturing processACCOMMODATIONS:Additional time to complete tasks / tests / quizzes / assignments
T /F Safety tests read to all students
Option for students to take formal assessments taken in the Learning Support room
Option for individual guidance
Verbal presentation of reading material by aid when present
Additional time to complete assignments as necessary
Modified Tests & Quizzes
Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

May 11

OBJECTIVES:	Students will be to apply their fixtures, jigs, and tooling to mass produce their selected project /MANUFACTURING_PROJECT). Students will be able to produce their student selected part and determine if it is GO / NO GO based on previously determined specifications and their inspection gauge.
ACTIVITIES:	manufacturing run for theMANUFACTURING_PROJECT project while making the necessary adjustments to the student developed jigs, fixtures, and tooling
EVALUATION :	Assessment of productivity and necessary adjustments
	Informal assessment of daily participation points / class participation within a group
	Assessment of Clean Up duties
ENRICHMENT :	Independent exploration of the manufacturing process
ACCOMMODATIONS:	Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

May 12

Manufacturing

OBJECTIVES: Students will be able to continue the trial run for the manufacturing process. Students will be able to make necessary adjustments to the jigs, fixtures, and tooling that they designed as needed. **ACTIVITIES**: Trial manufacturing run for the <u>MANUFACTURING_PROJECT</u> project while making the necessary adjustments to the student developed jigs, fixtures, and tooling EVALUATION: Assessment of productivity and necessary adjustments Informal assessment of daily participation points / class participation within a group Assessment of Clean Up duties ENRICHMENT: Independent exploration of the manufacturing process ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary **Modified Tests & Quizzes** Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

May 15 - 30

- **OBJECTIVES**:Students will be being the manufacturing process. Students will be able to make necessary
adjustments to the jigs, fixtures, and tooling that they designed as needed.
- ACTIVITIES: Students will complete their assigned manufacturing jobs
- **EVALUATION**: Assessment of productivity and necessary adjustments

Informal assessment of daily participation points / class participation within a group

Assessment of Clean Up duties

ENRICHMENT: Independent exploration of the manufacturing process

ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces

PA Academic Standards for Science and Technology and Engineering:

3.1.12.B, 3.1.12.D, 3.2.12.A, 3.2.12.D, 3.6.7.C, 3.6.10.B, 3.6.10.C, 3.6.12.C, 3.7.10B, 3.7.12A, 3.7.12D, 3.8.12.B

May 30 - June 2

Manufacturing

OBJECTIVES: Students will be work together to clean and organize the laboratory and conduct machine maintenance.

ACTIVITIES: Specific cleaning, organizing, and maintenance jobs will be assigned to students.

EVALUATION: Informal assessment of daily participation points / class participation within a group

Assessment of Clean Up duties

ENRICHMENT: Independent exploration of the machine maintenance

ACCOMMODATIONS: Additional time to complete tasks / tests / quizzes / assignments T /F Safety tests read to all students Option for students to take formal assessments taken in the Learning Support room Option for preferential seating Option for individual guidance Verbal presentation of reading material by aid when present Additional time to complete assignments as necessary Modified Tests & Quizzes Breaking up larger assignments into smaller manageable pieces