Semester	Week Number	Length of Time	Unit Number	Unit Title	Essential Questions	Learning Targets	Standards	Assessment	Vocabulary	Instructional Activities, Resources, and Teaching Notes	Building On	Building Towards
1	1	1 Week	N/A	Course Introduction & Overview								
1	2 3	2 Weeks	1	Safety	What are the procedures that need to be followed in order to stay safe while working in the shar? What does each tool and piece of equipment do?	The student will complete all safety tests for the class with a target score of 100%	OSH4: 1910.132. Protective equipment, including personal protective equipment for eyes, face, hoad, and externelse, protective dothing, respiratory maintained in a sanity and reliable control on where it is necessary by reason of hazards of processes or environment, chemical hazards, radiological intrastructure in a maniter equation where it is necessary by reason of hazards of processes or environment, chemical hazards, radiological intrastructure in the function of any part of the body through absorption, inhalation or physical context.	Safety Tests	Personal Protective Equipment (PPE) Eye protection Safety equipment Machine guards Occupational Safety and Health Administration (OSHA)	Tools and equipment ready for demonstration purposes. Materials to demonstrate operation of equipment. PPE for teacher and students.	Knowledge of previous tools and equipment used.	Using equipment within the shop safely and effectively
1	4	1 Week	2	Fractional Measurement Ruler	How is fractional measurement used in metalworking? How is a ruler read, interpreted, and used?	The student will add and subtract fractions with a target score of 75% The student will measure different items using a ruler with a target score of 75%	NIMS: Quality Technician 1.02 Measurement: Select and use appropriate M&TE (Measuring and Test Equipment) to measure part feature in an accurate, repeatable and reproducible manner.	Ruler Measuring Worksheet Fractional Math Worksheet Fractional Measuring Test	Dial caliper Micrometer Ruler Square Title block Plan and procedure	A mix of worksheet based and practical measurement based needs to be used to ensure students can read a nuler. Each student will need to be able to demonstrate that they can read a ruler.	Being able to measure various materials for production of projects	Being able to measure various materials for production of projects
1	5 6 7	3 Weeks	3	Bench Manufacturing	How is the bench manufacturing part produced in the most efficient manual that meaks the requirements? How are bideprints interpreted for production?	The student will safely operate equipment to produce a specified project with a target score of 78%	NMS: Benchwork Specialist 101 Process: Formulate strategies to fabricate and facility and the second strategies and the second strategies and the produce gain. NMS: Benchwork Specialist 120 Measurements: Select and use appropriate NMS: Benchwork Specialist 120 Measurements: Select and use appropriate measurements and the second strategies and the second strategies produce gain. OSK4: 101 C330 (1): The service that means that each alkelot employee uses appropriate or the produced where and benck employee second gains or resource or petitolish privile pit addition.	Bench Project Rubric	Hand tools Tap and die Fasteners Threads Coarse thread Counterstink	Order 10-19% more material for student errors. Have ortal tapps and des available for breaks tet students known fair 1 as poreads then herp may have to start the project again. Hergere etudenter is upon prototors so they do not al crowel the machines at once.	Unit safety and measurement content from previous units.	Developing skills and confidence on equipment
1	8 9	2 Weeks	4	Decimal Measurement Dial Caliper & Micrometer	How is decimal measurement used in retainworking? How is a data client read, interpreted, and used? How is a micrometer read, interpreted, and used?	The student will add and subtract decimals with a target score of 75%. The student will measure different items using a dia caliper with a target score of 75%. The student will measure different items using a micrometer with a target score of 75%.	NMIS: Gually Technician 10.2 Measurement: Select and use appropriate MATE Measuring and Technicem 10 measure part feature in an accurate, repeatable and reproducible manner.	Dial Caliper Worksheet Micrometer Worksheet Decimal MatWorksheet Decimal Measuring Test	Dial caliper Micrometer	Have additional items for students to measure ready as well as the varying answers within the LMS for immediate grading. The micrometer instruction will take longer to complete, have students practice the reading in steps so they can gain confidence with how the micrometer is used, start with each place value and then build from there.	Previous knowledge of decimals and measurement	Being able to measure various materials for production of projects
1	10 11 13 14 15 16 17 7	8 Weeks	5	Percision Manufacturing: Mill Project 1 & Lathe Project 1	New set the mill and statile used to produce parts that will fit opphron <sup>4</sup> What is the course of other that features of parts should be what special booting is needed to produce these parts and their features P	The studet will safety operate equipment to produce a specified project with a target score of 75%	NMM: Manual Matting Specialist 12 10 Rooper, Errorshate strategies to nell parts and quality withoff devotes for motions see supe. NMM: Banca Matting Specialist 22 Of Nethorkeling Devok April 19 Sections 2014 Section 2014 (Section 2014) Section 2014 (Section 2014) Section 2014 (Section 2014) Section 2014 (	Pecidica Manufacturing Project	Constrolling Constrolling End milling End milling Parallels Collett Canage Collett Collet	Order to 10% more matched to studeet errors, these exists tooling addition for breaks, especially marker and this and state service. The speed of the strand state service and the state service and the state state of the state service and the state program students in group nations so they do not all cover of meruphenes ad once the vigilist with subty expectally around the latter.	Bench manufacturing project & measurement.	Developing dats and confidence on equipment.
1	10	1 Week	N/A	Shop Cleanup & Midtern Exam				Midtern Exam				
	10	THUR		Crop Onarrop & molecul Cham								
2	1	1 Week	N/A	Safety & Equipment Review								
2	2	1 Week	N/A	Math & Measuring Review								
	-											
2	3 4 6 7 8 9 9 10	8 Weeks	6	Precision Manufacturing: Mill Project 2 & Lathe Project 2	How are fine to be produce parts that will if the term of the control of the term of t	The student will safely operate equipment to proce a specified project with a target score of 70%	NMS: Manail Milling Specialist 1.01 Process: Formulate strategies to mil parts NMS: Manai Milling Specialist 2.01 Visitologia, Dovak Algerner, Score worksholding dovors in markines with various configurations. MAS: Manai Milling Specialist 2.01 Visitologia Assemble and set colling local. Assemble and set colling local. Mass: Manai Milling Specialist 3.02 Monosemble: Bacelete milling marks: Manai Milling Specialist 3.02 Monosemble: Bacelete milling marks: Manai Milling Specialist 3.02 Monosemble: Specialist 3.02 Monosemble and reproductive marks: MMS: Manai Milling Specialist 3.02 Monosemble: Specialist 3.02 Monosemble Milling Specialist 3.02 Monosemble: Specialist 3.02 Monosemble: Specialist 3.02 Monosemble and reproductive marks: MMS: Manai Turing Specialist 3.02 Monosemble: Specialist 3.02 Monose Milling Specialist 3.02 Monosemble: Specialist 3.02 Monosemble Milling Manail Turing Specialist 3.02 Monosemble: Specialist 3.02 Monosemble and control specialist 3.02 Monosemble: Specialist 3.02 Monosemble Milling Manail Turing Specialist 3.02 Monosemble: Specialist 3.02 Monosemble: Monosemble and control specialist 3.02 Monosemble: Specialist 3.02 Monosemble: Monosemble Milling Manail Turing Specialist 3.02 Monosemble: Specialist 3.02 Monosemble: Monosemble and control specialist 3.02 Monosemble:	Precision Manufacturing Project Rubrids	NA	Order (0-15% more material for student errors, harmain erral tots and table reaches, especially tar aduet in two marks the transmission of the speed accreacity, monitor to act the markines up accreacity, and the speed accreacity, and the speed accreacity, and the speed accreacity around the lather.	Precision manufacturing projects previously done, the manufacturing process.	Purther developing skills and confidence on expirated

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2	11 12 13 14 15 16 16 16 18 18	8 Weeks	7	Alemative Manufacturing Project	How all the specified part be product? What may be appreciated to be needed to be produce the product of the product of dispersions to you can produce the part is the most accurate memor?	The student will safely operate explorent to produce a specified project with a largef score of 75%	<ul> <li>NASS, Benchunok Specialit 10 Phoness Formulate strategies to bioticate and other and the second strategies of the second strategies to bioticate and produce parts.</li> <li>Nessen Strategies and Strategies and Strategies and Strategies and produce parts.</li> <li>Nessen Strategies and Strategies and Strategies and parts and strategies and strategies and strategies and strategies and strategies and strategies and strategies and strategies and an accurate, repetation and strategies and strategies and strategies and strategies and strategies and strategies and strategies and strategies and strategies and strategies and strategies and accurate, repetation and strategies and strategies and accurate, re</li></ul>	Alemative Manufacturing Project	CNC GAM Code CAM CAM Shee Medal Pattern and stretch nut, States Bending text States Bending text States Bending text States Bending text States Bending text States Compared intervention States Compared intervention States States Charlies States St	Order 10:15% more material for Adulder errors. When errors holing available for calibration of the expectation of the expectat	All proc knowledge learned within the class up to this point.	Asold foundation of metalworking as the students on progress into the next metal working class.
2	18	2 Weeks		Shop Cleanup & Final Exam				Final Exam				
	20											