unit Plan Outline CIP Code:_____ Name:_____

Year 2, MP 1 Goals/Unit Topics = 101 hours	Year 2, MP 1 ELA Standards	Year 2, MP 1 Math Standards
1. Blending Operations a. Prepare panels for blending b. Proper abrasives for sanding c. Mixing and tinting color d. Proper techniques for blending base coat e. Blending agents f. Blend out basecoat for color match g. Discuss reason for blending **2. Sanding and Buffing** a. Determine paint problems (de-nib, runs, orange peel) b. Select correct abrasives c. Removal of overspray d. Buffer safety e. Selecting the correct compounds f. Demonstrate color sanding and buffing techniques g. Clean interior of vehicle/glass h. Clean exterior of vehicle i. Apply pin stripes/decals **3. Estimating Damage Analysis** a. Estimating terms – R&I, replace, section, included operations b. Discuss labor hours, paint hours – how they are separated c. Calculate costs for repairs d. Obtain customer data e. Obtain vehicle data f. Direct and indirect damage (primary and secondary) g. Make decision for panels that need repaired or replaced h. VIN – 17 characters – break down i. Use CCCONE software to create estimate 4. **Student Project and Task Completion** a. Student project and task list binder completion b.	1.CC. 3.6. 11-12. A,B,C,D,E,F,G,H,I. CC.3.5. 11-12. A,B,C,D,E,F,G,H,I., J A. CC.3.6.11-12.G. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. B. CC.3.5.11-12.J. By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently C. CC.3.5.11-12.I. Synthesize information from a range of sources(e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible	1. A. B. C. D. E. 2. A. B. C. D. E. 3. A. B. C. D.

	D. CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research E.CC.3.5.11-12.C. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. F. ditto G.ditto 2.CC. 3.6. 11-12. A,B,C,D,E,F,G,H,I. CC.3.5. 11-12. A,B,C,D,E,F,G,H,I,J. A. CC.3.6.11-12.G. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.	E. 4. A. B. C. D. E. 5. A. B. C. D. E.

	B. CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information C. CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats and media(e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. D.CC.3.5.11-12.C. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. E. ditto F.ditto G.ditto H.ditto I. ditto 3.CC. 3.6. 11-12. A,B,C,D,E,F,G,H,I. CC.3.5. 11-12. A,B,C,D,E,F,G,H,I.,J A. CC.3.5.11-12.G. Integrate and evaluate multiple sources of information	

	presented in diverse formats and media(e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. B. CC.3.5.11-12.F. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved C. C.3.6.11-12.F. Conduct short as well as more sustained research projects to answer a question (including a self generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation D. CC.3.5.11-12.C. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. E. CC.3.5.11-12.C. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.	

	4. CC. 3.6. 11-12. A,B,C,D,E,F,G,H,I. CC.3.5. 11-12. A,B,C,D,E,F,G,H,I.J A. CC.3.6.11-12.I. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences. B. CC.3.5.11-12.J. By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently	
Year 2, MP 2 **Goals/Unit Topics** **Goals/Unit Topics = 101 hours** **1. Plastic Bumper: Preparation and Repair** a. Different plastic identification (thermo plastic, thermoset) b. Nitrogen plastic welder c. 2-part epoxy (repair with and without backing) d. Repair process for bumper equipped with ADAS e. Adhesion promoter	**Year 2, MP 2** **ELA Standards** 1.CC. 3.6. 11-12. A,B,C,D,E,F,G,H,I. CC.3.5. 11-12. A,B,C,D,E,F,G,H,I. A. CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research. CC.3.5.11-12.D. Determine the	**Year 2, MP 2** **Math Standards** 1. A. B. C.

f. Proper steps to pre-clean and clean bumper **2. Structural Component Repair and Damage Analysis** a. 5 types of Damage (side sway, sag, mash, diamond, twist) b. Body dimension specs c. Tram gauge use (length & criss-cross measurements) d. Datum specs (height measurement) e. Measurement systems – laser, ladder, centering gauges) **3. Structural Straightening** a. Identify equipment used to anchor vehicle b. Measure vehicle to determine repair plan c. Make a pull based off of the measurement d. Determine the condition of the strut towers e. Anchor vehicle and remove mounting after pull **4. Electrical System and Terms** a. Terms: voltage, current, resistance, conductors, etc. b. Building a circuit with fuse, switch, wire connectors, etc. c. Fuse uses and explanation, testing d. Using an ohm meter e. Vehicle battery, cold cranking amps, load test **5. Student project and task competition/certificate completion** a. Project competition and certificate completion	meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics B. CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms. C. CC.3.5.11-12.C. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. D. ditto E. ditto 2.CC. 3.6. 11-12. A,B,C,D,E,F,G,H,I. CC.3.5. 11-12. A,B,C,D,E,F,G,H,I. A. CC.3.6.11-12.G. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text	D. E. 2. A. B. C. D. E. 3. A. B. C. D. E. 4. A. B. C. D.

	selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.. CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics B. CC.3.5.11-12.C. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. C. ditto D. ditto E. ditto 3.CC. 3.6. 11-12. A,B,C,D,E,F,G,H,I. CC.3.5. 11-12. A,B,C,D,E,F,G,H,I.,J A. CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and	E. 5. A. B. C. D. E.

	topics. B. CC.3.5.11-12.E. Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas. C. CC.3.5.11-12.I. Synthesize information from a range of sources(e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible D. CC.3.5.11-12.H. Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information E. CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms. 4. CC. 3.6. 11-12. A,B,C,D,E,F,G,H,I. CC.3.5. 11-12. A,B,C,D,E,F,G,H,I., J A. CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and	

	other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics. CC.3.5.11-12.G. Integrate and evaluate multiple sources of information presented in diverse formats and media(e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. B. CC.3.6.11-12.B. * Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes C. CC.3.5.11-12.B. Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms. D. CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics E. CC.3.5.11-12.D. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics	

	5. CC. 3.6. 11-12. A,B,C,D,E,F,G,H,I. CC.3.5. 11-12. A,B,C,D,E,F,G,H,I.J A. CC.3.5.11-12.J. By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently B. CC.3.5.11-12.C. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. C. CC.3.6.11-12.I. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences,	

Year 2, MP 3 **Goals/Unit Topics** **Goals/Unit Topics = 101 hours**	**Year 2, MP 3** **ELA Standards**	**Year 2, MP 3** **Math Standards**
1. Corrosion Protection a. Corrosion Causes b. Discuss corrosion protection materials (cavity wax, seam sealers) c. Correct application of rocker guard **2. Restraint Systems**	1. A. B.	1. Hourly Wage 2. Hourly Wage 3. Flat Rate 4. Flat Rate

a. Air bag safety/auto manufacturers steps to disarm
b. Identify restraint systems
c. Seat belts – look for stretching, frays
d. Seat belt removal and replacement

3. Advanced Technology

a. Discuss A.D.A.S System (Advance Driver Assistance System)
b. Discuss safety regarding high voltage vehicles
c. Discuss need for pre and post repair scan
d. Perform pre and post repair scans

4. Steering and Suspension Components

a. Identify suspension components (ball joints, control arms, etc)
b. McPherson struts
c. Alignment angles (camber, caster, toe in, toe out)
d. Jounce and rebound

5. NOCTI Review

a. Written test
b. Hands-on test

6. OSHA Certification

a. 10-hour general safety course

7. Student project and task completion/certification completion

a. Project competition and certificate completion

C.

D.

E.

2.

A.

B.

C.

D.

E.

3.

A.

B.

C.

D.

E.

4.

A.

B.

C.

5. Scrap Metal
6. Scrap Metal
7. Ratios
8. Elapsed Time/Time Cards
9. Repair Work Orders

	D. E. 5. A. B. C. D. E.	

Year 2, MP 4 Goals/Unit Topics Goals/Unit Topics = 101 hours	Year 2, MP 4 ELA Standards	Year 2, MP 4 Math Standards
1. Certification Work Continued a. Certification completion ASE, I-CAR, PPG (as needed per student) **2. PA State Inspection License Class** a. PA State Inspection CAT 1 test **3. NOCTI Review** a. Written test b. Hands-on test	1. A. B. C. D. E. 2.	1.1. Review Fractions For Nocti A. NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to

	A. B. C. D. E. 3. A. B. C. D. E. 4. A. B. C. D. E. 5. A.	limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers 2. Review Decimals for Nocti A. NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers 3. Review Percents for Nocti A. NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and

	B. C. D. E.	to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers 4. Review Repair/Orders for Nocti A. NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers 5. Nocti B. NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational

		numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers 6. Nocti C. NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers 7. Paint Ratios

		D. NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers 8. Temperature E. NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations

		and apply to complex numbers 9. Temperature F. NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers A.