

Agricultural Mechanics 105 Dual Credit Common Core State Standards Alignment June 2013

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Unit	Reading CCSS	Writing CCSS
1- Principles of Welding	2, 3, 4, 7, 9, 10	2, 6, 9
2 – Arc Welding	2, 3, 4, 6, 7, 10	2, 8
3 – Oxy Acetylene Welding and Cutting	2, 3, 4, 5, 6, 7, 8, 9, 10	1, 2, 4, 7, 8
4 – Plasma Cutting	2, 3, 4, 6, 7, 10	2
5 – MIG Welding	1,2,3,4,5, 6, 7, 8, 9, 10	1, 2, 4, 9
6 – TIG Welding	3, 4, 9	2, 6,
7 – AWS Symbols	3, 4, 10	1, 2, 4, 6
8 – Metals and Fabrication	1, 2, 3, 4, 5, 7, 8, 9, 10	2, 4, 6
9 – Principles of 2 & 4 Stroke Cycle Operation	1, 3, 4, 9	1, 6, 7, 8, 9, 10
10 – Construction of the Internal Combustion Gasoline Engine	2, 3, 4, 7, 9	1, 7, 8, 9, 10
11 – Measuring Devices	2, 3, 4, 7, 9	1, 6, 7, 8, 9
12. – Fuel and Carburetion Systems	2, 3, 4, 7, 9	1, 6, 7, 8, 9
13. – Governor Systems	1, 2, 4, 9, 10	1, 2, 4, 9
14. – Lubrication and Cooling Systems	1, 2, 4, 9, 10	1, 2, 4, 6
15. – Parts and Mechanics Manual Usage	2, 3, 4, 9, 10	2, 4, 9
16. – Trouble Shooting and Tune-up Procedure	2, 3, 4, 7, 9, 10	2, 4
17. – Electrical Wiring	1, 2, 3, 4, 6, 7, 8, 10	1, 2, 4, 7, 9
18. – Cost Effective Construction Technique	2, 3, 4, 7, 10	2, 4, 6,

Course Name: ASM 105

Unit Name: 1 – Principles of Welding

Unit Objectives:

1. Identify and follow safe practices in arc welding
2. Identify and follow safe practices in gas welding
3. Describe the fundamentals of the electric arc-welding process
4. Select various sizes and types of electrodes
5. Evaluate different types of arc welding machines
6. Describe the fundamentals of the gas welding and cutting process
7. Select gas welding and cutting equipment
8. Select welding rods and fluxes
9. Read and interpret drawings and welding symbols

Preferred Common Core Standards for Instruction

RST.11-12.2 - 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. (PW 1, 2, 3, 6)

RST.11-12.3 - 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. (PW 3, 6)

RST.11-12.4 - 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*. (PW 1, 2, 4, 8, 9)

RST.11-12.7 - 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. (PW 4, 5, 7, 8)

RST.11-12.9 - Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, concept or phenomenon, resolving conflicting information when possible. (PW 3, 6)

RST.11-12.10 - By the end of grade 12, read and comprehend science/technical texts

in the grades 11–CCR text complexity band independently and proficiently. (PW 1 - 9)

WHST.11-12.2d - Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

d. Use precise language, domain-specific vocabulary and techniques such as metaphor simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. (PW 3, 6)

e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). (PW 1, 2)

WHST.11-12.6 - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. (PW 5)

WHST.11-12.9 - Draw evidence from informational texts to support analysis, reflection, and research. (PW 5)

Course Name: ASM 105

Unit Name: 2 – Arc Welding

Unit Objectives:

1. Describe bead welding
2. Describe fillet welds for the five types of joints in the flat horizontal position using AC or DC equipment
3. Describe vertical welding
4. Describe overhead welding
5. Identify basic types of electrodes used with AC and DC arc welders using the AWS coding
6. Describe processes of testing welds for quality and strength of joint
7. Discuss distortion control in arc welding Calculate problems comparing fertilizer cost by comparing cost per pound of nutrients

Preferred Common Core Standards for Instruction

RST.11-12.2 - 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. (AW 5)

RST.11-12.3 - 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. (AW 1, 2, 3, 4, 6, 7)

RST.11-12.4 - 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*. (AW 1, 2, 3, 4, 6, 7)

RST.11-12.6 - 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. (AW 1, 2, 3, 4, 6, 7)

RST.11-12.7 - 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. (AW 6, 7)

RST.11-12.10 - By the end of grade 12, read and comprehend science/technical texts

in the grades 11–CCR text complexity band independently and proficiently. (AW 1-7)

WHST.11-12.2 - Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

d. Use precise language, domain-specific vocabulary and techniques such as metaphor simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. (AW 1-7)

e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). (AW 1-7)

WHST.11-12.8 - 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. (AW 1-7)

Course Name: ASM 105
Unit Name: 3 - :Oxy-Acetylene Welding and Cutting
Unit Objectives: 1. Describe bead welding 2. Describe fillet welds for the five types of joints in flat horizontal position 3. Describe vertical welding 4. Describe the braze welding process 5. Describe the types and applications of brazing alloys and fluxes that are available 6. Describe the process used for fusion welding cast iron with gas welding equipment 7. Discuss the process of braze welding mild steel and cast iron 8. Explain the process of lighting and adjusting the torch flame for specific welding and/or cutting operations Explain additional special applications of gas welding
Preferred Common Core Standards for Instruction RST.11-12.2 - 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. (OAWC 1) RST.11-12.3 - 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. (OAWC 1,8) RST.11-12.4 - 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 <i>grades 11–12 texts and topics</i>. (OAWC 1-4,7,8) RST.11-12.5 - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas. (OAWC 2-4,7) RST.11-12.6 - 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. (OAWC 2-5,7,8) RST.11-12.7 - 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. (OAWC 2-5,7,9)

RST.11-12.8 - 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. (OAWC 5,6,9)

RST.11-12.9 - 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. (OAWC 5,6,9)

RST.11-12.10 - By the end of grade 12, read and comprehend science/technical texts in the grades 11–CCR text complexity band independently and proficiently. (All)

WHST.11-12.1c - Write arguments focused on *discipline-specific content*. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. (OAWC 5,9)

WHST.11-12.2 - Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. (OAWC 9)

d. Use precise language, domain-specific vocabulary and techniques such as metaphor simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. (OAWC 1, 2, 3, 4, 6, 7, 8)

e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). (OAWC 1, 2, 3, 4, 6, 7, 8, 9)

WHST.11-12.4 - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (OAWC 1-9)

WHST.11-12.7 - 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. (OAWC 5,9)

WHST.11-12.8 - 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. (OAWC 5)

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Course Name: ASM 105
Unit Name: 4 – Plasma Cutting
Unit Objectives: 1. Identify the parts of a plasma cutter 2. Identify the materials that can be cut with a plasma cutter 3. Describe the correct and safe use of a plasma cutter 4. Demonstrate cutting out patterns with a plasma cutter
Preferred Common Core Standards for Instruction RST.11-12.2 - 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. (PC 3) RST.11-12.3 - 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. (PC 3) RST.11-12.4 - 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 <i>grades 11–12 texts and topics</i>. (PC 1,3) RST.11-12.6 - 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. (PC 1) RST.11-12.7 - 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. (PC 2) RST.11-12.10 - By the end of grade 12, read and comprehend science/technical texts in the grades 11–CCR text complexity band independently and proficiently. (All) WHST.11-12.2 - Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes. b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic. (PC 1) c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. (PC 1-3)

d. Use precise language, domain-specific vocabulary and techniques such as metaphor simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. (PC 1-3)

e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). (PC 3)

Course Name: ASM 105

Unit Name: 5- MIG Welding

Unit Objectives:

1. Pass a safety test and describe proper use of MIG welding equipment
2. Identify the different applications and uses of a MIG welder
3. Describe the theory of Metal Inert Gas welding
4. Describe the use of the MIG welder to flat weld
5. Describe the use of the MIG welder to vertical and overhead weld
6. Identify properly and improperly formed beads
7. Identify different problems with MIG welding, wire speed, arc length, and amperage for different thickness of metal
8. Discuss the different wire sizes and AWS classifications
9. Discuss the differences and similarities between MIG and Arc welding
10. Discuss causes and effects of poor welds and how to correct
11. Discuss and practice safe use of MIG welding equipment
12. Discuss the different uses of MIG welding in agriculture

Preferred Common Core Standards for Instruction

RST.11-12. 1 - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account. (MW 3)

RST.11-12.2 - 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. (MW 1,3,4,5,8,9,11)

RST.11-12.3 - 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. (MW 1,4,5,11)

RST.11-12.4 - 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*. (MW 1,4,5,11)

RST.11-12.5 - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas. (MW 1,4,5,11)

RST.11-12.6 - 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. (MW 2,6-10,12)

RST.11-12.7 - 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. (MW 1,6-10,12)

RST.11-12.8 - 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. (MW 6,7,10,12)

RST.11-12.9 - 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. (MW 6,7,10,12)

RST.11-12.10 - By the end of grade 12, read and comprehend science/technical texts in the grades 11–CCR text complexity band independently and proficiently. (All)

WHST.11-12.1 - Write arguments focused on *discipline-specific content*.

a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. (MW 12)

b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. (MW 12)

c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. (MW 10)

d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. (MW 10,12)

e. Provide a concluding statement or section that follows from or supports the argument presented. (MW 10,12)

WHST.11-12.2 - Write informative/explanatory texts, including the narration of historical

events, scientific procedures/experiments, or technical processes.

b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. (MW 1,2,4-9,11)

d. Use precise language, domain-specific vocabulary and techniques such as metaphor simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. (MW 1,6,7,12)

e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). (MW 2,3,6-9,11)

WHST.11-12.4 - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (MW 1-12)

WHST.11-12.9 - Draw evidence from informational texts to support analysis, reflection, and research. (MW 3,10,12)

Course Name: ASM 105
Unit Name: 6 – TIG Welding
Unit Objectives: 1. Pass a safety test and demonstrate proper use of TIG welding equipment 2. Identify the different applications and uses of a TIG welder 3. Describe the theory of Tungsten Inert Gas welding 4. Describe the process of welding aluminum with a TIG welder 5. Describe the process of welding stainless steel with a TIG welder 6. Identify different problems with TIG welding, arc length, and amperage settings for different thickness of metal 7. Identify properly and improperly formed beads 8. Discuss causes and effects of poor welds and how to correct 9. Discuss and practice safe use of TIG welding equipment 10. Discuss the different uses of TIG welding in agriculture
Preferred Common Core Standards for Instruction RST.11-12.3 - 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. (TW 1, 5, 6) RST.11-12.4 - 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 <i>grades 11–12 texts and topics</i>. (TW 1 – 4, 7 - 9) RST.11-12.9 - 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. (TW 3, 5 - 9) WHST.11-12.2 - Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding

comprehension. (TW 5, 6)

c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. (TW 1, 5, 6, 7, 8)

e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). (TW 6, 7, 8)

WHST.11-12.6 - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. (TW 7 - 9)

Course Name: ASM 105
Unit Name: 7 – AWS Symbols
Unit Objectives: 1. Identify the different weld symbols used by AWS and their meaning 2. Identify the different joint symbols used by AWS and their meaning 3. Discuss the importance of the placement of each symbol 4. Draw the different symbols and lines used by AWS 5. Make the proper welds in the proper locations using an AWS blueprint or diagram 6. Make fabrication plans using the AWS symbols
Preferred Common Core Standards for Instruction RST.11-12.3 - 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. (AWS 4 – 6) RST.11-12.4 - 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 <i>grades 11–12 texts and topics</i>. (AWS 1 – 6) RST.11-12.10 By the end of grade 12, read and comprehend science/technical texts in the grades 11–CCR text complexity band independently and proficiently. (AWS 1 – 6) WHST.11-12.1 - Write arguments focused on <i>discipline-specific content</i>. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. (AWS 4) d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. (AWS 5 – 6) WHST.11-12.2 - Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. (AWS 4 – 6) b. Develop the topic thoroughly by selecting the most significant and relevant facts,

extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. (AWS 4 – 6)

c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. (AWS 4–6)

d. Use precise language, domain-specific vocabulary and techniques such as metaphor simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. (AWS 4 – 6)

e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). (AWS 4 – 6)

WHST.11-12.4 - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (AWS 4, 6)

WHST.11-12.6 - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. (AWS 6)

Course Name: ASM 105

Unit Name: 8 – Metals and Fabrication

Unit Objectives:

1. List the common types of ferrous metals
2. Describe the working characteristics of common types of ferrous metals
3. Describe how the carbon content of ferrous metals affects their characteristics and applications
4. Identify the common types of ferrous metals from the physical properties other than the type of spark given off
5. Read and interpret the specification number of the common types of steel
6. List the fundamental methods used to heat treat steel
7. List the common types and applications of non-ferrous metals
8. Read and interpret the major American National Standards Institute's classifications for bolts and cap screws
9. Prepare a bill of materials for a metal project
10. Calculate the complete cost of metal projects based on the bill of materials
11. Lay out and mark stock material for cutting operations
12. Describe the alternative types of finishing processes that could be used on the formed and/or fabricated metal projects
13. List the advantages and disadvantages of the various metal finishing processes

Preferred Common Core Standards for Instruction

RST.11-12.1 - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account. (MF: 1-10,12,13)

RST.11-12.2 - 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. (MF: 2,3,5,8,12,13)

RST.11-12.3 - 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. (MF: 9-12)

RST.11-12.4 - 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*. (MF: 1-13)

RST.11-12.5 - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas. (MF: 9,10)

RST.11-12.7 - 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. (MF: 1-13)

RST.11-12.8 - 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. (MF: 3,4,12)

RST.11-12.9 - 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. (MF: 6,11,12)

RST.11-12.10 - By the end of grade 12, read and comprehend science/technical texts in the grades 11–CCR text complexity band independently and proficiently. (MF 1 - 13)

WHST.11-12.2a - Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. (MF: 2,7,11)

b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. (MF: 2,6,12,13)

c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. (MF: 6,8,12,13)

d. Use precise language, domain-specific vocabulary and techniques such as metaphor simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. (MF: 6,8,12,13)

e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of

the topic). (MF: 6,8,12,13)

WHST.11-12.4 - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (MF: 6, 9, 11).

WHST.11-12.6 - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.(MF: 12).

Course Name: ASM 105
Unit Name: 9 – Principles of 2 and 4-Stroke Cycle Operation
Unit Objectives: 1. Define and relate the following terms: stroke, cycle, crankshaft revolution, camshaft revolution, principal events, intake, compression, power, exhaust, camshaft timing, ignition timing, BTDC, TDC, BDC, and power strokes per revolution of crankshaft. 2. List in sequential order and explain the significance of the principal events in the operation of a 4-stroke/cycle engine. 3. Explain relationship of the main parts of a 4-cycle engine to the principles of operation of that engine. 4. Identify a 4-cycle engine from visual operation. 5. Explain the difference in operation and construction of a 2- and 4-stroke cycle engine. 6. Recognize a 2-stroke cycle engine by visual observation. 7. Identify the advantages and disadvantages of 2-and 4-stroke cycle engine
Preferred Common Core Standards for Instruction RST.11-12. 1 - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account. (P2/4SCO 1, 3, 4, 7) RST.11-12.3 - 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. (P2/4SCO 2, 4, 6) RST.11-12.4 - 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 <i>grades 11–12 texts and topics</i>. (P2/4SCO 1, 2, 5) RST.11-12.7 - 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. (P2/4SCO) 1, 2, 3, 4, 5, 6, 7) RST.11-12.9 - 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. (P2/4SCO 1, 2, 3, 5, 7)

WHST.11-12.1 - Write arguments focused on *discipline-specific content*.

a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. (P2/4SCO 3, 5)

b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. (P2/4 SCO 7)

WHST.11-12.1a - Write arguments focused on *discipline-specific content*. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. (P2/4SCO 2, 3, 5)

WHST.11-12.6 - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. (1, 2, 3, 4, 5, 6, 7)

WHST.11-12.7 - 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. (P2/4 SCO 2, 5, 7)

WHST.11-12.8 - 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. (P2/4 SCO 7)

WHST.11-12.9 - Draw evidence from informational texts to support analysis, reflection, and research. (P2/4SCO 7)

WHST.11-12.10 - 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. (P2/4 SCO 1)

Course Name: ASM 105
Unit Name: 10 - Construction of the Internal Combustion Gasoline Engine
Unit Objectives: 1. Identify the basic engine parts and the function of each in the operation of an engine. 2. Explain the "internal combustion" in terms of engine design. 3. Describe the combustion chamber as the focal point of engine operation. 4. Outline the disassembly of a small engine according to the procedures outlined by the manufacturer. 5. Identify the wear points on a disassembled engine. 6. Outline the assembly of a small engine according to procedures outlined by the manufacturer.
Preferred Common Core Standards for Instruction RST.11-12.2 - 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. (CICGE 1, 2, 3, 4, 6) RST.11-12.3 - 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. (CICGE 4, 6) RST.11-12.4 - 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 <i>grades 11–12 texts and topics</i>. (CICGE 1) RST.11-12.7 - 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. (CICGE 2, 4, 5) RST.11-12.9 - 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. (CICGE 4, 6) WHST.11-12.1 - Write arguments focused on <i>discipline-specific content</i>. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create

an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. (CICGE 2)

c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. (CICGE 2, 4, 6)

WHST.11-12.1a - Write arguments focused on *discipline-specific content*. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. (CICGE 1, 2, 3, 4, 5, 6, 7)

WHST.11-12.6 - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. (CICGE 2)

WHST.11-12.7 - 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. (CICGE 2)

WHST.11-12.8 - 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. (CICGE 1, 5)

WHST.11-12.9 - Draw evidence from informational texts to support analysis, reflection, and research. (CICGE 1, 2, 3, 4, 5, 6, 7)

WHST.11-12.10 - 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. (CICGE 6)

Course Name: ASM 105
Unit Name: 11 – Measuring Devices
Unit Objectives: 1. Describe tolerance, specifications, clearance; reject size given by the manufacturer and how these "terms" affect engine operation. 2. Identify those parts of an engine that need to be measured with a measuring device. 3. Use micrometers measurement to determine if parts of a small engine are within specifications set by the manufacturer. 4. Discuss the manipulation of the different micrometers so as to record the proper measurements.
Preferred Common Core Standards for Instruction RST. 11-12.2 - 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. (MD 1, 2, 3, 4) RST.11-12.3 - 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. (MD 2, 3) RST.11-12.4 - 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 <i>grades 11–12 texts and topics</i>. (MD 1, 3) RST.11-12.7 - 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. (MD 1, 2, 3, 4) RST.11-12.9 - 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. (MD 3, 4) WHST.11-12.1 - Write arguments focused on <i>discipline-specific content</i>. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. (MD 3) b. Write arguments focused on <i>discipline-specific content</i>. Develop claim(s) and

counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. (MD 1, 4)

c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. (MD 4)

e. Provide a concluding statement or section that follows from or supports the argument presented. (MD 1, 3, 4)

WHST.11-12.6 - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. (MD 1, 2, 3, 4)

WHST.11-12.7 - 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. (MD1, 2, 3, 4)

WHST.11-12.8 - 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. (MD 1, 4)

WHST.11-12.9 - Draw evidence from informational texts to support analysis, reflection, and research. (MD 1, 2, 3, 4)

Course Name: ASM 105
Unit Name: 12 Fuel and Carburetion Systems
Unit Objectives: 1. Distinguish between the basic fuel systems. 2. Decide which fuel system should be used on an engine considering its operating position and the machine it is to be used on. 3. Identify and explain the function of the major components of a typical small engine fuel system. 4. Identify and explain the function of the major components of a carburetor.
Preferred Common Core Standards for Instruction RST. 11-12.2 - 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. (FCS 1, 2, 3, 4) RST.11-12.3 - 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. (FCS 1, 2, 3, 4) RST.11-12.4 - 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 <i>grades 11–12 texts and topics</i>. (FCS 3, 4) RST.11-12.7 - 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. (FCS 2,3,4) RST.11-12.9 - 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. (FCS 2) WHST.11-12.1 - Write arguments focused on <i>discipline-specific content</i>. a. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. (FCS 2) b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form

that anticipates the audience's knowledge level, concerns, values, and possible biases. (FCS 2)

c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. (FCS 2)

WHST.11-12.6 - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. (FCS 1, 2, 3, 4)

WHST.11-12.7 - 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. (FCS 1, 2, 3, 4)

WHST.11-12.8 - 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. (FCS 1, 2, 3, 4)

WHST.11-12.9 - Draw evidence from informational texts to support analysis, reflection, and research. (FCS 1, 2, 3, 4)

Course Name: ASM 105

Unit Name: 13 Governor Systems

Unit Objectives:

1. Distinguish between the two types of governor commonly found on small engines
2. Explain the basic functions of a governor
3. Describe the effects of changing the governed speed of an engine

Preferred Common Core Standards for Instruction

RST.11-12.1 - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account. (GS 1, 2)

RST.11-12.2 - 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. (GS 3)

RST.11-12.4 - 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*. (GS 1, 2, 3)

RST.11-12.9 - 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. (GS 3)

RST.11-12.10 - By the end of grade 12, read and comprehend science/technical texts in the grades 11–CCR text complexity band independently and proficiently. (GS 1-3)

WHST.11-12.1a - Write arguments focused on *discipline-specific content*. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. (GS 1, 3)

WHST.11-12.2 - Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. (GS 1, 2)

c. Use varied transitions and sentence structures to link the major sections of the text,

create cohesion, and clarify the relationships among complex ideas and concepts. (GS 2)

WHST.11-12.4 - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (GS 1-3)

WHST.11-12.9 - Draw evidence from informational texts to support analysis, reflection, and research. (GS 1,2,3)

Course Name: ASM 105

Unit Name: 14 Lubrication and Cooling Systems

Unit Objectives:

1. Explain the need for lubrication
2. Identify the points in a small engine needing lubrication and how lubricant is delivered
3. Choose the lubricant an engine needs based on operating conditions and recommendations from the manufacturer
4. Explain how a small engine is air-cooled
5. Identify the main components of an air-cooled system
6. Discuss the need for a cooling mechanism regarding the source of heat and how heat dissipates

Preferred Common Core Standards for Instruction

RST.11-12.1 - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account. (LCS 1, 2, 5)

RST.11-12.2 - 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. (LCS 1, 4)

RST.11-12.4 - 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*. (LCS 3)

RST.11-12.9 - 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. (LCS 4, 6)

RST.11-12.10 - By the end of grade 12, read and comprehend science/technical texts in the grades 11–CCR text complexity band independently and proficiently. (LCS 1,2,3,4,5,6)

WHST.11-12.1 - Write arguments focused on *discipline-specific content*.

a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and

evidence. (LCS 3)

e. Provide a concluding statement or section that follows from or supports the argument presented. (LCS 6)

WHST.11-12.2a - Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. (LCS 2, 5)

WHST.11-12.4 - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (LCS 1, 4, 6)

WHST.11-12.6 - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. (LCS 3)

Course Name: ASM 105

Unit Name: 15 Parts and Mechanics Manual Usage

Unit Objectives:

1. Identify engines and machines according to model, serial, specification, and type numbers when each applies
2. Use the manufacturer's respective master parts manual in ordering replacement parts for an engine
3. Use a manufacturer's respective manuals to solve procedural problems specific to a certain engine
4. Explain the reasons manufacturers have specific manuals for their line of engines and machines

Preferred Common Core Standards for Instruction

RST.11-12.2 - 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. (PMMU 3)

RST.11-12.3 - 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. (PMMU 3)

RST.11-12.4 - 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*. (PMMU 3)

RST.11-12.9 - 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. (PMMU 3)

RST.11-12.10 - By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently. (PMMU 2 - 4)

WHST.11-12.2 - Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. (PMMU 3)

b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. (PMMU 3)

WHST.11-12.4 - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (PMMU 3)

WHST.11-12.9 - Draw evidence from informational texts to support analysis, reflection, and research. (PMMU 3)

Course Name: ASM 105

Unit Name: 15 Fuel and Carburetion Systems

Unit Objectives:

1. Distinguish between the basic fuel systems.
2. Decide which fuel system should be used on an engine considering its operating position and the machine it is to be used on.
3. Identify and explain the function of the major components of a typical small engine fuel system.
4. Identify and explain the function of the major components of a carburetor.

Preferred Common Core Standards for Instruction

RST. 11-12.2 - 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. (FCS 1, 2, 3, 4)

RST.11-12.3 - 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. (FCS 1, 2, 3, 4)

RST.11-12.4 - 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*. (FCS 3, 4)

RST.11-12.7 - 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. (FCS 2,3,4)

RST.11-12.9 - 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. (FCS 2)

WHST.11-12.1 - Write arguments focused on *discipline-specific content*.

a. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. (FCS 2)

b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. (FCS 2)

c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. (FCS 2)

WHST.11-12.6 - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. (FCS 1, 2, 3, 4)

WHST.11-12.7 - 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. (FCS 1, 2, 3, 4)

WHST.11-12.8 - 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. (FCS 1, 2, 3, 4)

WHST.11-12.9 - Draw evidence from informational texts to support analysis, reflection, and research. (FCS 1, 2, 3, 4)

Course Name: 16 ASM 105
Unit Name: Trouble Shooting and Tune-up Procedure
Unit Objectives: 1. Describe a logical step-by-step process of locating engine trouble 2. Explain the process of trouble-shooting in terms of symptoms, diagnosis, and remedy 3. Use a mechanic's manual in checking for any specific trouble-shooting suggestions for a particular engine or machine 4. Use a step-by-step process of cleaning and adjusting an engine for peak performance
Preferred Common Core Standards for Instruction RST.11-12.2 - 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. (TSTP 1, 2, 3, 4) RST.11-12.3 - 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. (TSTP 1, 2, 3, 4) RST.11-12.4 - 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 <i>grades 11–12 texts and topics</i>. (TSTP 1, 2, 3, 4) RST.11-12.7 - 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. (TSTP 1, 2, 3, 4) RST.11-12.9 - 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. (TSTP 1, 2, 3, 4) RST.11-12.10 - By the end of grade 12, read and comprehend science/technical texts in the grades 11–CCR text complexity band independently and proficiently. (TSTP 1, 2, 3, 4) WHST.11-12.2 - Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding

comprehension. (TSTP1,2,3,4)

b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. (TSTP 1, 2, 3, 4)

WHST.11-12.4 - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (TSTP 1, 2, 3, 4)

Course Name: ASM 105

Unit Name: 17 Electrical Wiring

Unit Objectives:

1. Discuss the National Electrical Code requirements for wiring; especially for harsh environments found in agricultural structures.
2. Describe the relationship of volts, amps, and ohms in terms of Ohms Law.
3. Plan an electrical circuit
4. Determine electrical power requirements
5. Read the kilowatt hour meter
6. Identify the function of over current and ground fault protection
7. Measure, electrical circuits for voltage, current flow, resistance, and wattage

Preferred Common Core Standards for Instruction

RST.11-12.1 - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account. (EW 1, 2)

RST.11-12.2 - 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. (EW 2, 4, 6)

RST.11-12.3 - 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. (EW 3, 5)

RST.11-12.4 - 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*. (EW 1, 2, 7)

RST.11-12.6 - 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. (EW 2, 6)

RST.11-12.7 - 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. (EW 3, 4)

RST.11-12.8 - 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. (EW 3)

RST.11-12.10 - By the end of grade 12, read and comprehend science/technical texts in the grades 11–CCR text complexity band independently and proficiently. (EW 1-7)

WHST.11-12.1 - Write arguments focused on *discipline-specific content*.

a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. (EW 1, 2)

e. Provide a concluding statement or section that follows from or supports the argument presented. (EW 3, 6)

WHST.11-12.2 - Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. (EW 2, 4)

b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. (EW 1)

e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). (EW 3)

WHST.11-12.4 - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (EW 2, 4, 6)

WHST.11-12.7 - 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. (EW 2, 3, 4, 5, 6)

WHST.11-12.9 - Draw evidence from informational texts to support analysis, reflection, and research. (EW 1, 2, 3, 4, 6)

Course Name: ASM 105
Unit Name: 18 Cost Effective Construction Technique
Unit Objectives: 1. Utilize computer assisted design techniques 2. Prepare construction plans and working drawings 3. Determine recommended and required design features 4. Read and interpret plans and working drawings 5. Prepare bill of materials
Preferred Common Core Standards for Instruction RST.11-12.2 - 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. (CEPT 1, 2, 3, 4, 5) RST.11-12.3 - 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. (CEPT 1, 2, 3, 4, 5) RST.11-12.4 - 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 <i>grades 11–12 texts and topics</i>. (CEPT 1, 2, 3, 4, 5) RST.11-12.7 - 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. (CEPT 1, 2, 3) RST.11-12.10 - By the end of grade 12, read and comprehend science/technical texts in the grades 11–CCR text complexity band independently and proficiently. (CEPT 1, 2, 3, 4, 5) WHST.11-12.2 - Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes. a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. (CEPT 1, 2, 3, 4, 5) b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic. (CEPT 1, 2, 3, 4, 5)

d. Use precise language, domain-specific vocabulary and techniques such as metaphor simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers. (CECT 1,2,3,4,5)

e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). (CECT 1,2,3,4,5)

WHST.11-12.4 - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (CECT 1,2,3,4,5)

WHST.11-12.6 - Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. (CECT 1,2,3,4,5)