Effective Date: 2009

Hamburg Area School District

Name of Course: Home Repair and Maintenance
Department: Industrial Technology and Engineering

Grade Level: 9-12
Instructional Time: 180 days
Length of Course: 30 cycles
Period Per Cycle: 6 cycles
Length of Period: 43 minutes

Texts and Resources:
Home Repair and Maintenance
Fine homebuilding Magazine
Field trips
Field experiences
Shop Projects
Home Improvement Video tape series
Web sites

Assessments:
Individual Projects
Group Projects
Chapter Questions

Tests and Quizzes
Rubrics
Self evaluation
Teacher conferences
Demonstrations
Notebooks
Shop operation and procedures
Exhibiting safe shop Practices

Course Plan
(Industrial Technology & Engineering)

Course Name: Home Repair and Maintenance
Unit: Shop Safety **Time Line: Five Cycles**

Essential Content/ Essential Questions	Performance Objectives	Standards/Anchors
General Safety	• Tell why safety is really attitude • Discuss common woodshop hazards and how to prevent problems. • Describe different types of personal safety gear and tell their purpose. • Describe how to set up a safe workshop. • Discuss the use of first aid for common workshop injuries.	3.7.10 A 3.7.12 A
Fire Safety	• Identify possible fire hazards within the workshop • Identify and discuss how to properly use a fire extinguisher • Explain the proper steps to take in the event of an actual fire in the workshop.	3.7.10 A 3.7.12 A
Machine Safety and Operation (Major Machines)	• Identify and discuss general machine safety rules • Identify and understand the safety rules and operating procedures for the planer • Identify and understand the safety rules and operating procedures for the jointer • Identify and understand the safety rules and operating procedures for the table saw • Identify and understand the safety rules and operating procedures for the radial arm saw • Identify and understand the safety rules and operating procedures for the band saw • Identify and understand the safety rules and operating procedures for the shaper	3.7.10 A 3.7.12 A

Course Plan
(Industrial Technology and Engineering)

Course Name: Home Repair and Maintenance
Unit: Home Safety **Time Line: One Cycle**

Essential Content/ Essential Questions	Performance Objectives	Standards/Anchors
The causes of accidents and how to prevent them	• Describe a common myth about accidents • State what type of work habits promote safety • Explain the possible hazards of working with ladders and tools, electrical devices and chemicals • List some of the more common safety aids everyone should have in the home	3.7.10 A 3.7.12 A

Course Plan
(Industrial Technology and Engineering)

Course Name: Home Repair and Maintenance
Unit: Basic Hand Tools **Time Line: Two Cycles**

Essential Content/ Essential Questions	Performance Objectives	Standards/Anchors
Hand Tools and their uses	• Recognize tools used for measuring • Recognize tools used for cutting • Recognize tools used for fastening • Recognize tools used for drilling and other jobs • Choose the proper tool for a specific application • Decide on a program of tool storage, upkeep, and labeling	3.7.10 A 3.7.12 A 3.7.10 B 3.7.12 B

Course Plan
(Industrial Technology and Engineering)

Course Name: Home Repair and Maintenance
Unit: Materials **Time Line: Two Cycles**

Essential Content/ Essential Questions	Performance Objectives	Standards/Anchors
Fasteners, related hardware, and adhesives	• Recognize and name some common fasteners • Choose the proper hardware for the job at hand • Produce strong joints between materials • Show and exhibit knowledge of safe work methods	3.7.10 A 3.7.12 A
Lumber and Building Materials	• List common hardwood and softwood species • Describe several ways in which boards are sawn from a log • List and identify the dressed sizes for the most common lumber used • Read and decode the grade marking/indicators on lumber and plywood • Choose proper wood types and grades for interior and exterior use • Request woodwork items by proper names • Choose wood products by cost and quality	3.7.10 A 3.7.12 A

Hamburg Area School District
Course Plan
(Industrial Technology and Engineering)

Course Name: Home Repair and Maintenance
Unit: The Exterior House **Time Line: Five Cycles**

Essential Content/ Essential Questions	Performance Objectives	Standards/Anchors
Structural Parts of the House	• Define terms used for the materials, masonry units, and wood frame members found in each of the major house structures • Locate studs and other frame components when you need to mount items or do remodeling • Recognize a job that is beyond your abilities	3.6.10 B 3.6.10 C 3.612 C
Exterior Wall Coverings	• List the types of siding and facing used on exterior walls • Explain how to repair split or decayed wood siding • Describe how repair brick or stone facing • Do some simple repair jobs	3.7.10 A 3.7.12 A 3.7.10 B 3.7.12 B
Roof Covering and Gutter Repair	• List and identify the many types of roof covering materials • State which roof types should only be repaired by an experienced roofer • Describe how to begin applying a row of shingles for each type of roof • Calculate shingle amounts required for a specific job • Plan shingle and flashing work • Recall rules for cleaning and painting gutters • Do some simple layouts and application	3.7.10 A 3.7.12 A 3.7.10 B 3.7.12 B

Hamburg Area School District
Course Plan
(Industrial Technology and Engineering)

Course Name: Home Repair and Maintenance
Unit: The Exterior House **Time Line: Five Cycles**

Essential Content/ Essential Questions	Performance Objectives	Standards/Anchors
Doors and Windows	• Identify solid and hollow core doors • Decide which door hinge is causing each binding problem • Describe hoe to hang a new door • Explain how a lock is installed • List some types of windows • State the procedure for reglazing or for replacing glass • Discuss and make screen repair steps	3.7.10 A 3.7.12 A 3.7.10 B 3.7.12 B

Hamburg Area School District
Course Plan
(Industrial Technology and Engineering)

Course Name: Home Repair and Maintenance
Unit: The Interior House **Time Line: Four Cycles**

Essential Content/ Essential Questions	Performance Objectives	Standards/Anchors
Interior Walls and Ceilings	• Recognize various types of wall and ceiling materials • List the necessary repair steps for holes and cracks in walls • Describe how to solve ceramic tile problems • List the methods to fasten wood paneling and gypsum board • Describe hanging devices for suspended ceilings	3.7.10 A 3.7.12 A 3.7.10 B 3.7.12 B
Floor Coverings	• List the layers of underlayment required for each type of floor • Describe the precision of smoothness needed under a floor material • Lay out guidelines to place resilient tile • List common methods to eliminate floor squeaks • Recall a method to fix a sagging floor	3.7.10 A 3.7.12 A 3.7.10 B 3.7.12 B
Cabinets	• Recognize cabinet and furniture styles • List features of wood, metal, and plastic surfaces or shaped items • Describe how to install a plastic laminate • List the purposes of the many hinges and catches • State some methods of adjusting hinges, catches, and drawer guides • Recall steps for wood frame repair of cabinets • Make designs for efficient kitchens	3.7.10 A 3.7.12 A 3.7.10 B 3.7.12 B

Hamburg Area School District
Course Plan
(Industrial Technology and Engineering)

Course Name: Home Repair and Maintenance
Unit: The Interior House **Time Line: Four Cycles**

Essential Content/ Essential Questions	Performance Objectives	Standards/Anchors
Paints and Decorating	• State the purpose of flagging on the brush • Choose the proper brush for either latex paint or oil based paints • Choose rollers by thickness of cover type and material • List the order for painting the various parts of a house • Tell how to thin paint it or box it together • Describe the proper patterns for spray painting • Plan both trim work and work on large surfaces • Describe how hot, cold, and foggy weather cause paint problems • Prepare or prime metal for painting	3.7.10 A 3.7.12 A 3.7.10 B 3.7.12 B

Hamburg Area School District
Course Plan
(Industrial Technology and Engineering)

Course Name: Home Repair and Maintenance
Unit: Masonry **Time Line: Two Cycles**

Essential Content/ Essential Questions	Performance Objectives	Standards/Anchors
Concrete, Masonry, and Fireplace maintenance	• State the components of concrete • Describe how to mix concrete and mortar for common uses • Compute the amount of concrete needed for a particular job • Describe how to pour and finish concrete • Identify the steps and procedures for repairing holes and cracks in concrete and masonry • List the steps for laying brick/block • Describe chemical or physical cleaning methods for masonry surfaces • Describe how to maintain metal fireplace and chimney units • Describe how to prepare for working with stone	3.7.10 A 3.7.12 A 3.7.10 B 3.7.12 B

Hamburg Area School District
Course Plan
(Industrial Technology and Engineering)

Course Name: Home Repair and Maintenance
Unit: Plumbing **Time Line: Two Cycles**

Essential Content/ Essential Questions	Performance Objectives	Standards/Anchors
Potable Water System	• Choose the type of pipe and fittings for a job • Calculate lengths of pipes with fitting allowances • Describe how to solder copper pipe • Describe how to join PVC pipe and fittings • Recognize different types of faucets with and without washers • List faucet repairs a home mechanic can fix • Give the cause of water hammer • Repair minor leaks • Discuss how to care for and maintain a water softener	3.7.10 A 3.7.12 A 3.7.10 B 3.7.12 B

Hamburg Area School District
Course Plan
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Course Name: Home Repair and Maintenance
Unit: Electrical **Time Line: Two Cycles**

Essential Content/ Essential Questions	Performance Objectives	Standards/Anchors
Electrical Distribution System	• Read a watt-hour meter • Calculate current, voltage, and resistance • Be able to choose wiring sizes • Sketch common circuits with duplex outlets • Determine the safety of a circuit • Use a neon test light • Know when to use a fish wire • Attach a wire to a screw terminal properly	3.7.10 A 3.7.12 A 3.7.10 B 3.7.12 B

Hamburg Area School District
Course Plan
(Industrial Technology and Engineering)

Course Name: Home Repair and Maintenance
Unit: HVAC **Time Line: Two Cycles**

Essential Content/ Essential Questions	Performance Objectives	Standards/Anchors
Heating	• Bleed air from a radiator • Adjust the primary air ration for a gas burner • Replace air and fuel filters and clean the electric ignition for an oil burner • State the requirements for wood stove clearances • Reduce corrosive oxides in solar collectors • Understand the laws of conduction and convection • Understand radiation and the vibration of molecules • Identify types of home heating furnaces and systems • Plan and calculate the necessary heating capacity needed for a building size required	3.7.10 A 3.7.12 A 3.7.10 B 3.7.12 B
Cooling	• Specify the size of fans and vents needed for adequate cooling in a desired space • Tell how to install a ceiling or wall-mounted fan • Plan and calculate the cooling capacity needed for a building size required • State some of the principles of air conditioners • List some do's and don'ts for air conditioner operation • Understand fan rating and CFM • Understand BTU and SEER	3.7.10 A 3.7.12 A 3.7.10 B 3.7.12 B

Hamburg Area School District
Course Plan
(Industrial Technology and Engineering)

Course Name: Home Repair and Maintenance
Unit: Furniture **Time Line: Four Cycles**

Essential Content/ Essential Questions	Performance Objectives	Standards/Anchors
Repairing and Refurbishing Furniture	• Describe how to remove finishes without causing damage • Describe how to use finish removers on curved and irregular shaped surfaces • List some methods of repairing or regluing dowel type joints • Choose a proper glue for the project application • Explain the steps for repairing dents and holes in furniture • List types of repairs using wood blocks, wedges, and also metal brackets • Describe how to conceal fasteners and metal reinforcements	3.7.10 A 3.7.12 A 3.7.10 B 3.7.12 B