MADISON PUBLIC SCHOOL DISTRICT

HOME TECHNOLOGY

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I. OVERVIEW

The Home Technology course is a semester elective which provides each student with an opportunity to learn about the technology and materials used to construct a residential dwelling. This will be accomplished by constructing full scale exterior wall sections using materials and tools utilized in the construction industry today. Students will gather information on the proper use of the tools and materials and gain an understanding on repairs they can undertake as potential homeowners.

II. RATIONALE

Each student will have ample opportunity to work with the materials and tools through the project development. The project is a means in which the student will learn the proper and safe use of the technology available to them in order to construct the wall sections.. Emphasis will be placed on Safety, material selection, design, construction sequencing and time management.

III. STUDENT OUTCOMES (Link to New Jersey Core Curriculum Standards)

STANDARD 9.4: CAREER AND TECHNICAL EDUCATION
Career Clusters Table

The Architecture & Construction Career Cluster includes occupations and careers in designing, planning, managing, building, and maintaining the built environment.

9.4.B Architecture & Construction
1. Design / Pre - Construction
2. Construction
3. Maintenance / Operations

The Manufacturing Career Cluster includes occupations and careers in planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing / process engineering.

9.4.M Manufacturing
1. Manufacturing Production Process Development
2. Production
3. Maintenance, Installation and Repair
4. Quality Assurance
5. Logistics and Inventory Control
6. Health, Safety, and Environmental Assurance

The Science, Technology, Engineering & Mathematics Career Cluster includes occupations and careers in planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.

9.4.O Science, Technology, Engineering & Mathematics
1. Engineering and Technology
2. Science and Mathematics

8.2 Technology Education, Engineering, and Design All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society, and the environment.

Students will:
1. Design and create a technology product or system that improves the quality of life and identify trade-offs, risks, and benefits
2. Analyze the interactions among various technologies and collaborate to create a product or system demonstrating their interactivity.
3. Analyze the full costs, benefits, trade-offs, and risks related to the use of technologies in a potential career path.
4. Select and utilize resources that have been modified by digital tools (e.g., CNC equipment, CAD software) in the creation of a technological product or system.
5. Design and create a product that maximizes conservation and sustainability of a scarce resource, using the design process and entrepreneurial skills throughout the design process.

4.2. Geometry and Measurement

Students will:
1 Understand Units of Measure
2. Transfer shapes

IV. ESSENTIAL QUESTIONS AND CONTENT

WHY ENROLE IN HOME TECHNOLOGY?
- Learn Safety
- Learn how to use the tools
- Understand construction sequencing
- Construct a project of your own
- Develop an appreciation of the construction industry

WHY DO WE BUILD THE WALL SECTIONS?
- Explore the unknown
- Utilize the materials
- Explore career paths
- Economics

WHY SHOULD YOU LEARN HOW TO USE THE TOOLS?
- Expand your knowledge base
- Gather more information
- Gain confidence

WHY LEARN CONSTRUCTION SEQUENCING?

- Life skills
- Logical order of events

V. STRATEGIES

Each student will be introduced to the machine that we will be learning at the time.

- What is this?
- What is it used for?

The student will then, through a lecture, be shown exactly how to use the tool safely and properly to be successful upon using the machine. The students are then responsible to demonstrate to the instructor that they have acquired the knowledge to use the machine properly. Once they have demonstrated thy have acquired the necessary safety procedural skills they will be allowed to use that machine when needed. A series of "Shop Works " CD's will be utilized to reinforce the lecture.

VI. EVALUATION

The students will be given safety quizzes on each of the power tools that they will have to pass with a 100%. A Business and Technology rubric will be implemented on the completion of projects to obtain a suitable grade. Student will also be evaluated on class participation and time management.

VII. REQUIRED RESOURCES

A series of "Shop Works" DC's on tool usage, shop safety and construction technology will be as a visual aid.

VIII. SCOPE AND SEQUENCE

Introduction and shop safety and procedures	1 day

Each section will consist of a lecture buy instructor, administering of safety quiz for power tools and observation of knowledge acquired.

Measuring, circular saw	4 days
Hammers and power nailer	3 days
Nails, nailing by hand power nailing, types of nailing	3 days
Removing nails	1 day
Drills power and cordless	2 days
Boring holes	2 days

Fasteners	2 days
Reading construction plans	2 day
Framing materials	2 days
Construct wall section	5 days
Ply wood and panel cutter	1 day
Diagonal bracing a sheathing	2 days
Construct garage model	2 days on going project
Vapor barrier	2 day
Vinyl siding	4 days
Potable water and copper plumbing	4 days
Plumbing waste water	3 days
Basic electric	5 day
Insulation	2 days
Ceiling van installation	2 days
Concrete	4 days
Drywall	3 days
Applying joint compound	2 days
Sand and finishing drywall	2 days
Painting material and equipment	3 days
Painting drywall	2 days
Roofing	3 days
Reciprocating saw	2 days
Windows	2 days
Doors	2 days
Demolition	3 days
Career day	1 day