MACOPIN SCHOOL

SYLLABUS

I. COURSE TITLE:

Industrial Technology - Grade 7

II. TEXTBOOK:

Living with Technology. Michael Hacker and Robert Barden. Delmar Publishers, Inc., Albany, New York, 1992.

III. COURSE DESCRIPTION:

Industrial Technology, Grade 7, is an exploratory program that is designed to be an introduction to Technology Education while addressing various aspects of industry. The students will be afforded the opportunity to develop problem-solving skills and the technical "know-how" to build viable solutions. The technology learning activity will be used as the vehicle through which the student will explore various hands-on aspects of industry while developing problem-solving, critical-thinking, and decision-making skills.

IV. COURSE OBJECTIVES:

A. To develop an understanding for the spoken language and to use the language to express ideas
B. To develop writing skills in verbal and technical capacities
C. To understand and solve problems involving basic academics and "know-how" to apply the results
D. To access and use specialized knowledge, when necessary, to solve problems
E. To think and act logically by developing positive attitudes and behaviors
F. To demonstrate personal values and ethics
G. To learn to exercise a sense of responsibility
H. To demonstrate self-control
I. To show pride in one's work
J. To develop the skills necessary to follow written, pictorial, or verbal directions
K. To identify with the goals, norms, values, and customs of a group
L. To use a team approach to identify problems and devise solutions
M. To develop a "give-and-take" attitude to achieve group goals
N. To learn the behavior necessary to function successfully in a changing world
O. To develop sensitivity to the needs of others

V. COURSE CONTENT OUTLINE:

A. Introduction to Technology
    1. Definition of technology
    2. Terms and definitions associated with technology
    3. Development of technology
    4. Meeting people's needs with technology
    5. Categories of technology
B. Communication Systems
    1. Electronic communication systems
    2. Visual communication
C. Technology Systems

1. Understanding systems
2. Using systems to solve problems
3. Input-process-output

D. Construction Systems
1. Construction systems combine resources to provide a structure as an output
2. Construction subsystems
3. Structures (bridges, buildings, dams, towers, roads)

E. Transportation Systems
1. Transportation systems are used to move people, materials, or goods from one place to another.
2. Transportation systems convert energy to motion.
3. Mechanical movement, combining simple machines to create a transportation system
4. Linear movement
5. Dynamics
6. Gears
7. Water transportation
8. Air transportation
9. People movers

F. Problem Solving and Design Documentation
1. Problem identification
2. Design brief
3. Investigation and research
4. Alternate solutions
5. Model building
6. Testing
7. Evaluation and redesign

VI. STUDENT ACTIVITIES:

A. Technology learning activities
B. Written documentation
C. Information gathering and research
D. Oral presentations
E. Drawing
F. Building
G. Hands-on learning experiences
H. Problem solving
I. Critical thinking
J. Experimentation and creativity

VII. EVALUATION OF STUDENT LEARNING:

A. Tests/quizzes - 10%
B. Technology learning activity documentation evaluation - 20%
C. Class participation - 20%
D. Effort and workmanship displayed in problem solutions - 20%
E. Evaluation of various problem solutions - 20%
F. Homework - 10%

ld revised 4/01