Warren County School District

PLANNED INSTRUCTION

COURSE DESCRIPTION

Course Title: Design and Manufacturing Enterprise

Course Number: 00751

Course Description and Prerequisites:

This tenth through twelfth grade course is intended to allow students to participate in starting, running, and succeeding in a business endeavor. Students will choose the type of product that they will produce, decide how to produce it, and market it. This class can be integrated with a business course, and/or be used as a senior project. Students will have the opportunity to invest financially in their own enterprise. Any return after all expenses are paid will be contingent upon the success of the company.

Final Required

Prerequisite: Technological Design and Systems

Suggested Grade Level: 10th – 12th

Length of Course: X One Semester _____Two Semesters _____Other

Units of Credit: ½

PDE *Certification and Staffing Policies and Guidelines (CSPG)* Required Teacher Certification(s) Technology Education CSPG#65

Certification verified by WCSD Human Resources Department:
X Yes ____No

Board Approved Textbooks, Software, Materials:
Title:
Publisher:
ISBN #:
Copyright Date:

Date of WCSD Board Approval:

BOARD APPROVAL:

Date Written: 10/9/06

Date Approved: _____

Implementation Year: 2007-2008

Suggested Supplemental Materials: None

Course Standards

PA Academic Standards:

3.1.10. (A,B,C,D,E) Unifying Themes
3.1.12. (A,B,C,D,E) Unifying Themes
3.2.10. (A,B,D) Inquiry and Design
3.2.12. (A,B,D) Inquiry and Design
3.6.10. (B,C) Technology Education
3.6.12. (B,C) Technology Education
3.7.10. (A,C,D) Technology Devices
3.7.12. (A,C,D)) Technology Devices
3.8.10. (A,B,C) Science, Technology and Human Endeavors
3.8.12. (A,B,C) Science, Technology and Human Endeavors

WCSD Academic Standards: None

Industry or Other Standards: None

WCSD EXPECTATIONS

WCSD K-12 Expectations for instruction in writing, reading, mathematics and, technology have been developed and revised annually. The teacher will integrate all WCSD Expectations into this planned instruction

SPECIAL EDUCATION AND GIFTED REQUIREMENTS

The teacher shall make appropriate modifications to instruction and assessment based on a student's Individual Education Plan (I.E.P.) or Gifted Individual Education Plan (G.I.E.P.).

SPECIFIC EDUCATIONAL OBJECTIVES/CORRESPONDING STANDARDS AND ELIGIBLE CONTENT WHERE APPLICABLE

3.1.10 (A,B,C,D,E) Unifying Themes x – performance assessed during that semester

	Performance Indicator	1	2	Assessment
A.	Discriminate among the concepts of systems, subsystems, feedback and control in solving technological problems.			Formative Assessments: • Peer Assessment • Quizzes • Teacher Observation Summative Assessment: • Documentation / Portfolio • Project
B.	Describe concepts of models as a way to predict and understand science and technology.			
C.	Apply patterns as repeated processes or recurring elements in science and technology.			
D.	Apply scale as a way of relating concepts and ideas to one another by some measure.			
E.	Describe patterns of change in nature, physical and man made systems.			

3.1.12 (A,B,C,D,E) Unifying Themes

	Performance Indicator	1	2	Assessment
A.	Apply concepts of systems, subsystems, feedback and control to solve complex technological problems.			Formative Assessments: • Peer Assessment • Quizzes • Teacher Observation Summative Assessment: • Documentation / Portfolio • Project
B.	Apply concepts of models as a method to predict and understand science and technology.			
C.	Assess and apply patterns in science and technology.			
D.	Analyze scale as a way of relating concepts and ideas to one another by some measure.			
E.	Evaluate change in nature, physical systems and man made systems.			

3.2.10 (A,B,D) Inquiry and Design

	Performance Indicator	1	2	Assessment
A.	Apply knowledge and understanding about the nature of scientific and technological knowledge.			Formative Assessments: • Peer Assessment • Quizzes • Teacher Observation Summative Assessment:
B.	Apply process knowledge and organize scientific and technological phenomena in varied ways.			

D.	Identify and apply the technological design process to solve problems.			• Documentation / Portfolio • Project

3.2.12 (A,B,D) Inquiry and Design

	Performance Indicator	1	2	Assessment
A.	Evaluate the nature of scientific and technological knowledge.			Formative Assessments: • Peer Assessment • Quizzes • Teacher Observation Summative Assessment: • Documentation / Portfolio • Project
B.	Evaluate experimental information for appropriateness and adherence to relevant science processes.			
D.	Analyze and use the technological design process to solve problems.			

3.6.10 (B,C) Technology Education

	Performance Indicator	1	2	Assessment
B.	Apply knowledge of information technologies of encoding, transmitting, receiving, storing, retrieving and decoding.			Formative Assessments: • Peer Assessment • Quizzes • Teacher Observation Summative Assessment: • Documentation / Portfolio • Project
C.	Apply physical technologies of structural design, analysis and engineering, personnel relations, financial affairs, structural production, marketing, research and design to real world problems.			

3.6.12 (B,C) Technology Education

	Performance Indicator	1	2	Assessment
B.	Analyze knowledge of information technologies of processes encoding, transmitting, receiving, storing, retrieving and decoding.			Formative Assessments: • Peer Assessment • Quizzes • Teacher Observation Summative Assessment: • Documentation / Portfolio • Project
C.	Analyze physical technologies of structural design, analysis and engineering, personnel relations, financial affairs, structural production, marketing, research and design to real world problems.			

3.7.10 (A,C,D) Technology Devices

	Performance Indicator	1	2	Assessment
A.	Identify and safely use a variety of tools, basic machines, materials and techniques to solve problems and answer questions.			Formative Assessments: • Peer Assessment • Quizzes • Teacher Observation Summative Assessment: • Documentation / Portfolio • Project
C.	Apply basic computer operations and concepts.			
D.	Utilize computer software to solve specific problems.			

3.7.12 (A,C,D) Technology Devices

	Performance Indicator	1	2	Assessment
A.	Apply advanced tools, materials and techniques to answer complex questions.			Formative Assessments: • Peer Assessment • Quizzes • Teacher Observation Summative Assessment: • Documentation / Portfolio • Project
C.	Evaluate computer operations and concepts as to their effectiveness to solve specific problems.			
D.	Evaluate the effectiveness of computer software to solve specific problems.			

3.8.10 (A,B,C) Science, Technology and Human Endeavors

	Performance Indicator	1	2	Assessment
A.	Analyze the relationship between societal demands and scientific and technological enterprises.			Formative Assessments: • Peer Assessment • Quizzes • Teacher Observation Summative Assessment: • Documentation / Portfolio • Project
B.	Analyze how human ingenuity and technological resources satisfy specific human needs and improve the quality of life.			
C.	Evaluate possibilities consequences and impacts of scientific and technological solutions.			

3.8.12 (A,B,C) Science, Technology and Human Endeavors

	Performance Indicator	1	2	Assessment
A.	Synthesize and evaluate the interactions and constraints of science and technology on society.			Formative Assessments: • Peer Assessment • Quizzes • Teacher Observation Summative Assessment:
B.	Apply the use of ingenuity and technological resources to solve specific societal needs and improve the quality of life.			

C.	Evaluate the consequences and impacts of scientific and technological solutions.			• Documentation / Portfolio • Project

ASSESSMENTS

PSSA Assessment Anchors Addressed: The teacher must be knowledgeable of the PDE Assessment Anchors and/or Eligible Content and incorporate them into this planned instruction. Current assessment anchors can be found at pde@state.pa.us.

Formative Assessments: The teacher will develop and use standards-based assessments throughout the course.

Portfolio Assessment: _X_ Yes ____ No

District-wide Final Examination Required: _X_ Yes ____ No

Course Challenge Assessment:
Written Test(s)
Performance Assessment(s)

REQUIRED COURSE SEQUENCE AND TIMELINE

Content Sequence	Dates
Introduction to the class and details on course requirements	2 days
Safety	2 weeks
Departments of Manufacturing	6 weeks
Mass production.	8 weeks
Liquidation	1 week

Objectives:

1. Utilize the proper steps in designing a product.
2. Cooperate with others to facilitate a good working environment.
3. Qualify the importance of marketing, stock shares, and finances.
4. Make-up and implement quality control devices.
5. Generate and apply management principles.
6. Employ inventory control techniques.
7. Develop the necessary paperwork needed to assist the manufacturing of a product.

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WCSD STUDENT DATA SYSTEM INFORMATION

1. Is there a required final examination? _X_ Yes ____ No
2. Does this course issue a mark/grade for the report card?

   _X_ Yes____ No

3. Does this course issue a Pass/Fail mark? ____ Yes _X_ No
4. Is the course mark/grade part of the GPA calculation?

   _X_ Yes ____ No
5. Is the course eligible for Honor Roll calculation? _X_ Yes ____ No
6. What is the academic weight of the course?

   ____ No weight/Non credit _X_ Standard weight

   ____ Enhanced weight (Describe)_____