

Course: Technology Education

GRADE: 8

Revised 9/12/07

PLANNED COURSE CURRICULUM GUIDE

I. COURSE DESCRIPTION AND INTENT:

The purpose of this course is to give students the opportunity to learn about a variety of different technologies that are necessary in today's job market. A systems approach is learned to explore the history of technology and apply this knowledge to safely create sound structures.



II. INSTRUCTIONAL TIME:

Class Periods: 22.5

Length of Class Periods (minutes): 70 minutes

Length of Course: 22.5 days

Unit of Credit: NA

PLANNED COURSE ADAPTATIONS/MODIFICATIONS

Introduction

The instructional adaptations that follow are provided as suggestions to be implemented with all students, particularly with those in need of special education services including the gifted. This listing is in no way intended to be exhaustive. Rather, it is reflective of some major considerations in the area of curriculum adaptations/modifications.

These instructional adaptations will work with any student, but are especially beneficial to those in need of learning support. Some may argue that these modifications are simply *good teaching*. Indeed, modifications of this type do represent good teaching. These principles of good teaching become instructional modifications whenever: (1) certain students in a particular class require such modifications *above and beyond* what is typically required by *most* students in that class and (2) without these modifications, these same students would not succeed.

Assessment is an integral part of instruction reflecting student progress as well as achievement. Therefore, also included are suggestions for assessment modifications.

- Peer Support
- Cooperative learning among peers
- Modeling
- Development of Information Organizer
- Development of Graphic Organizer
- Development of structured study guides
- Student selection of instructional material (i.e., reading, writing, math)
- Taped lessons
- Copy notes (peer or teacher)
- Student conferencing
- Combine and vary modes of lesson presentation
- Adjust language level to match the developmental and intellectual levels of students
- Let student practice given examples first. Then assign tasks to be completed.
- Provide opportunity for guided and independent practice in a variety of situations
- Limit number and length of directions
- Have students repeat/review directions (i.e., peer to peer, student to teacher)
- Give feedback that is as immediate, specific, and objective as possible
- Clarify error responses so that students do not make the same errors over and over again
- Reinforce progress towards desired outcomes
- Breakdown complex tasks into smaller, more manageable units
- Use verbal prompts to elicit desired results
- Use manual guidance (i.e., hand over hand) to facilitate correct responses
- Computer assisted instruction
- Assessment based upon teacher observation of student performance (i.e., daily work, portfolio, artifacts, projects)
- Extended test time
- Test read to student by teacher or peer
- Oral testing (i.e., student retelling of information)
- Open book/note test
- Alternate testing (any demonstration of a student's understanding of concepts)
- Retesting
- Reduce the number of responses required on tests
- Use of curriculum based assessment
- Vary test format
- Objectively define mastery as related to each task. Tasks should be learned to mastery
- Reduce or remove distracting stimuli
- Use of concrete objects and manipulatives in all stages of instruction and assessment
- Emphasize important information
- Allow extra time to complete assignments/projects
- Limit the number of assigned tasks in the initial stages of learning. As the student's competency increases, expect the student to complete the same number of tasks as the rest of the class
- Use supplemental materials
- Alternate assignments accepted (i.e., modification to homework assignments)
- Flexible grouping/individual assistance
- Seating to accommodate needs
- Teacher proximity
- Use behavioral management techniques (i.e., contracts, time-out, token system, charts)

PREFACE

Users and information seekers should familiarize themselves with the purpose and terminology of this **Planned Course Curriculum Guide (PCCG)**. We suggest that you first read the following:

- **PCCG PURPOSE AND INTENT**
- **PCCG DEFINITIONS**

The PCCG specifies the unit lesson outcome, essential content, standards, activities, resources, and evaluation of student performance. This sector provides the means to initiate the learning activities to attain the program goal as identified in the course description and intent.

The standards and outcomes are minimal expectations; further embellishment of the course is discretionary with the instructor depending upon the capability of the students.

This PCCG is designed as an ACTIVE document capable of technological modification as required.

The instructional delivery of this curriculum is quality controlled through the lesson plan development of the teacher.

PLANNED COURSE CURRICULUM GUIDE (PCCG) PURPOSE AND INTENT

The Planned Course Curriculum Guide (PCCG) is a multi-purpose document:

- All staff, particularly new teachers, can understand instructional expectations through the WRITTEN curriculum
- A continuing district-wide instructional process and scope and sequence of subject matter are enhanced. The WRITTEN curriculum is delivered through the TAUGHT curriculum [instructional content and learning activities] and is evaluated through the TESTED curriculum [expected levels of student achievement - learning outcomes]
- Priority student-centered outcomes are identified and attained through suggested learning activities and content designed to help insure a balanced and comprehensive basic curriculum
- Essential content and course standards provide an efficient basis for selecting appropriate instructional materials and resources
- Staff development areas for curriculum improvement are provided
- The PCCG conforms with current Pennsylvania Department of Education curriculum regulations and serves the dual feature of providing both an administrative document and an instructional guide
- Content and subject format remain flexible and adaptable to modification - an “active” document
- Special Pennsylvania Department of Education [PDE] legislation is identified
- Parents and students are provided with an overview of the instructional program and each course in particular

PLANNED COURSE CURRICULUM GUIDE (PCCG) DEFINITIONS

- **Course Description and Intent:** a brief overview of the course and program goals
- **Instructional Time:** frequency of class meetings and time/appropriate credit at the secondary level
- **Special Notes:** emphatic features or highlights and identification of Department of Education mandates found in the course
- **Unit Lesson Outcome:** describes the knowledge, skills, attitudes, student performance behaviors and areas of study that have been identified as appropriate to help the student attain the rigorous standards of a quality education
- **Teaching-Learning Activities:** suggested activities designed to help all students achieve the learning outcomes and standards
- **Outcomes/Standards:** statements establishing the minimal knowledge, skills, performance behaviors, and essential learning (content) a student must attain
- **Expected Levels of Achievement (Learning Outcomes):** what students will be expected to do as a result of the application of teaching-learning activities and content
- **Evaluation Criteria (Actual Level of Attainment):** student performance level achieved and measured through specified evaluation criteria

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Subject Title: Technology Education

Discipline/Grade Level: 8

UNIT LESSON OUTCOME: 1

Students will be able to identify and draw sound structures.

RELATIONSHIP TO PA OUTCOMES/STANDARDS (Check Appropriate Graduation Outcomes)																						
Communications	1.1	<input checked="" type="checkbox"/>	1.2	<input type="checkbox"/>	1.3	<input type="checkbox"/>	1.4	<input type="checkbox"/>	1.5	<input type="checkbox"/>	1.6	<input checked="" type="checkbox"/>	1.7	<input type="checkbox"/>	1.8	<input type="checkbox"/>						
Mathematics	2.1	<input type="checkbox"/>	2.2	<input checked="" type="checkbox"/>	2.3	<input checked="" type="checkbox"/>	2.4	<input type="checkbox"/>	2.5	<input type="checkbox"/>	2.6	<input type="checkbox"/>	2.7	<input type="checkbox"/>	2.8	<input type="checkbox"/>	2.9	<input checked="" type="checkbox"/>	2.10	<input checked="" type="checkbox"/>	2.11	<input type="checkbox"/>
Science & Technology	3.1	<input checked="" type="checkbox"/>	3.2	<input checked="" type="checkbox"/>	3.3	<input type="checkbox"/>	3.4	<input type="checkbox"/>	3.5	<input checked="" type="checkbox"/>	3.6	<input checked="" type="checkbox"/>	3.7	<input checked="" type="checkbox"/>	3.8	<input checked="" type="checkbox"/>	3.9	<input type="checkbox"/>				
Environment & Ecology	4.1	<input type="checkbox"/>	4.2	<input type="checkbox"/>	4.3	<input type="checkbox"/>	4.4	<input type="checkbox"/>	4.5	<input type="checkbox"/>	4.6	<input type="checkbox"/>	4.7	<input type="checkbox"/>	4.8	<input checked="" type="checkbox"/>	4.9	<input type="checkbox"/>				
Civics & Government	5.1	<input type="checkbox"/>	5.2	<input type="checkbox"/>	5.3	<input type="checkbox"/>	5.4	<input type="checkbox"/>														
Economics	6.1	<input type="checkbox"/>	6.2	<input checked="" type="checkbox"/>	6.3	<input checked="" type="checkbox"/>	6.4	<input type="checkbox"/>	6.5	<input type="checkbox"/>												
Geography	7.1	<input checked="" type="checkbox"/>	7.2	<input type="checkbox"/>	7.3	<input type="checkbox"/>	7.4	<input type="checkbox"/>														
History	8.1	<input checked="" type="checkbox"/>	8.2	<input type="checkbox"/>	8.3	<input type="checkbox"/>	8.4	<input type="checkbox"/>														
Arts & Humanities	9.1	<input type="checkbox"/>	9.2	<input type="checkbox"/>	9.3	<input type="checkbox"/>	9.4	<input type="checkbox"/>														
Health, Safety & PE	10.1	<input type="checkbox"/>	10.2	<input type="checkbox"/>	10.3	<input checked="" type="checkbox"/>	10.4	<input type="checkbox"/>	10.5	<input type="checkbox"/>												
Family & Consumer Science	11.1	<input type="checkbox"/>	11.2	<input type="checkbox"/>	11.3	<input type="checkbox"/>	11.4	<input type="checkbox"/>														
Career Education & Work	13.1	<input checked="" type="checkbox"/>	13.2	<input type="checkbox"/>	13.3	<input type="checkbox"/>	13.4	<input checked="" type="checkbox"/>														

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

ESSENTIAL CONTENT OUTCOMES/STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES <i>(Individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful:</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 1</p> <p>What characteristics affect the strength of structures?</p> <p>How can multi-view plans be used to represent 3-dimensional structures?</p>	<p>Demonstrate the ability to draw multi-view plans.</p> <p>Evaluate the strengths and weaknesses of structures.</p>	<p>Observation</p> <p>Short Answer</p> <p>Science demonstrations</p> <p>Quizzes</p> <p>Projects</p>	<p>Handouts</p> <p>Video</p>

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Subject Title: Technology Education

Discipline/Grade Level: 8

UNIT LESSON OUTCOME: 2

Students will be able to safely function in any workshop.

RELATIONSHIP TO PA OUTCOMES/STANDARDS (Check Appropriate Graduation Outcomes)																						
Communications	1.1	<input checked="" type="checkbox"/>	1.2	<input type="checkbox"/>	1.3	<input type="checkbox"/>	1.4	<input type="checkbox"/>	1.5	<input type="checkbox"/>	1.6	<input checked="" type="checkbox"/>	1.7	<input type="checkbox"/>	1.8	<input type="checkbox"/>						
Mathematics	2.1	<input type="checkbox"/>	2.2	<input type="checkbox"/>	2.3	<input type="checkbox"/>	2.4	<input type="checkbox"/>	2.5	<input type="checkbox"/>	2.6	<input type="checkbox"/>	2.7	<input type="checkbox"/>	2.8	<input type="checkbox"/>	2.9	<input type="checkbox"/>	2.10	<input type="checkbox"/>	2.11	<input type="checkbox"/>
Science & Technology	3.1	<input type="checkbox"/>	3.2	<input checked="" type="checkbox"/>	3.3	<input type="checkbox"/>	3.4	<input type="checkbox"/>	3.5	<input type="checkbox"/>	3.6	<input checked="" type="checkbox"/>	3.7	<input checked="" type="checkbox"/>	3.8	<input type="checkbox"/>	3.9	<input type="checkbox"/>				
Environment & Ecology	4.1	<input type="checkbox"/>	4.2	<input type="checkbox"/>	4.3	<input type="checkbox"/>	4.4	<input type="checkbox"/>	4.5	<input type="checkbox"/>	4.6	<input type="checkbox"/>	4.7	<input type="checkbox"/>	4.8	<input type="checkbox"/>	4.9	<input type="checkbox"/>				
Civics & Government	5.1	<input type="checkbox"/>	5.2	<input type="checkbox"/>	5.3	<input type="checkbox"/>	5.4	<input type="checkbox"/>														
Economics	6.1	<input type="checkbox"/>	6.2	<input type="checkbox"/>	6.3	<input type="checkbox"/>	6.4	<input type="checkbox"/>	6.5	<input type="checkbox"/>												
Geography	7.1	<input type="checkbox"/>	7.2	<input type="checkbox"/>	7.3	<input type="checkbox"/>	7.4	<input type="checkbox"/>														
History	8.1	<input type="checkbox"/>	8.2	<input type="checkbox"/>	8.3	<input type="checkbox"/>	8.4	<input type="checkbox"/>														
Arts & Humanities	9.1	<input type="checkbox"/>	9.2	<input type="checkbox"/>	9.3	<input type="checkbox"/>	9.4	<input type="checkbox"/>														
Health, Safety & PE	10.1	<input type="checkbox"/>	10.2	<input type="checkbox"/>	10.3	<input checked="" type="checkbox"/>	10.4	<input type="checkbox"/>	10.5	<input type="checkbox"/>												
Family & Consumer Science	11.1	<input type="checkbox"/>	11.2	<input type="checkbox"/>	11.3	<input type="checkbox"/>	11.4	<input type="checkbox"/>														
Career Education & Work	13.1	<input type="checkbox"/>	13.2	<input checked="" type="checkbox"/>	13.3	<input type="checkbox"/>	13.4	<input type="checkbox"/>														

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

ESSENTIAL CONTENT OUTCOMES/STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES <i>(Individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful:</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 2</p> <p>What are guidelines to follow when using hand tools?</p> <p>What safety guidelines should be followed when using power tools?</p> <p>What safety measures should be followed when in a workshop?</p>	<p>Demonstrate the ability to function safely in any workshop.</p> <p>Demonstrate correct use of hand and power tools in production.</p>	<p>Observation</p> <p>Projects</p> <p>Quizzes</p>	<p>Safety handout</p> <p>Video</p>

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Subject Title: Technology Education

Discipline/Grade Level: 8

UNIT LESSON OUTCOME: 3

Students will be able to explain the four major eras of technology.

RELATIONSHIP TO PA OUTCOMES/STANDARDS (Check Appropriate Graduation Outcomes)																						
Communications	1.1	<input checked="" type="checkbox"/>	1.2	<input type="checkbox"/>	1.3	<input type="checkbox"/>	1.4	<input type="checkbox"/>	1.5	<input type="checkbox"/>	1.6	<input checked="" type="checkbox"/>	1.7	<input type="checkbox"/>	1.8	<input type="checkbox"/>						
Mathematics	2.1	<input type="checkbox"/>	2.2	<input type="checkbox"/>	2.3	<input type="checkbox"/>	2.4	<input type="checkbox"/>	2.5	<input type="checkbox"/>	2.6	<input type="checkbox"/>	2.7	<input type="checkbox"/>	2.8	<input type="checkbox"/>	2.9	<input type="checkbox"/>	2.10	<input type="checkbox"/>	2.11	<input type="checkbox"/>
Science & Technology	3.1	<input checked="" type="checkbox"/>	3.2	<input type="checkbox"/>	3.3	<input type="checkbox"/>	3.4	<input type="checkbox"/>	3.5	<input type="checkbox"/>	3.6	<input type="checkbox"/>	3.7	<input checked="" type="checkbox"/>	3.8	<input checked="" type="checkbox"/>	3.9	<input type="checkbox"/>				
Environment & Ecology	4.1	<input type="checkbox"/>	4.2	<input type="checkbox"/>	4.3	<input type="checkbox"/>	4.4	<input type="checkbox"/>	4.5	<input type="checkbox"/>	4.6	<input type="checkbox"/>	4.7	<input type="checkbox"/>	4.8	<input type="checkbox"/>	4.9	<input type="checkbox"/>				
Civics & Government	5.1	<input type="checkbox"/>	5.2	<input type="checkbox"/>	5.3	<input type="checkbox"/>	5.4	<input type="checkbox"/>														
Economics	6.1	<input type="checkbox"/>	6.2	<input type="checkbox"/>	6.3	<input type="checkbox"/>	6.4	<input type="checkbox"/>	6.5	<input type="checkbox"/>												
Geography	7.1	<input type="checkbox"/>	7.2	<input type="checkbox"/>	7.3	<input type="checkbox"/>	7.4	<input type="checkbox"/>														
History	8.1	<input checked="" type="checkbox"/>	8.2	<input type="checkbox"/>	8.3	<input type="checkbox"/>	8.4	<input type="checkbox"/>														
Arts & Humanities	9.1	<input type="checkbox"/>	9.2	<input type="checkbox"/>	9.3	<input type="checkbox"/>	9.4	<input type="checkbox"/>														
Health, Safety & PE	10.1	<input type="checkbox"/>	10.2	<input type="checkbox"/>	10.3	<input type="checkbox"/>	10.4	<input type="checkbox"/>	10.5	<input type="checkbox"/>												
Family & Consumer Science	11.1	<input type="checkbox"/>	11.2	<input type="checkbox"/>	11.3	<input type="checkbox"/>	11.4	<input type="checkbox"/>														
Career Education & Work	13.1	<input type="checkbox"/>	13.2	<input type="checkbox"/>	13.3	<input type="checkbox"/>	13.4	<input type="checkbox"/>														

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ESSENTIAL CONTENT OUTCOMES/STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES <i>(Individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful:</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 3</p> <p>What are the four eras of technology?</p> <p>What are characteristics of each of the four eras of technology?</p> <p>What were the major contributions of each era of technology?</p>	<p>Describe the four major eras of technology.</p> <p>List characteristics of each era.</p> <p>Evaluate the usefulness of contributions of each era to technology.</p>	<p>Quizzes</p> <p>Short answers</p>	<p>Handout</p>

LEARNING OUTCOMES/STANDARDS AND CONTENT/ACTIVITIES

Statements of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Subject Title: Technology Education

Discipline/Grade Level: 8

UNIT LESSON OUTCOME: 4

Students will be able to identify, describe and evaluate the use of The System Model.

RELATIONSHIP TO PA OUTCOMES/STANDARDS (Check Appropriate Graduation Outcomes)																						
Communications	1.1	<input checked="" type="checkbox"/>	1.2	<input type="checkbox"/>	1.3	<input type="checkbox"/>	1.4	<input type="checkbox"/>	1.5	<input type="checkbox"/>	1.6	<input checked="" type="checkbox"/>	1.7	<input type="checkbox"/>	1.8	<input type="checkbox"/>						
Mathematics	2.1	<input type="checkbox"/>	2.2	<input type="checkbox"/>	2.3	<input type="checkbox"/>	2.4	<input type="checkbox"/>	2.5	<input type="checkbox"/>	2.6	<input type="checkbox"/>	2.7	<input type="checkbox"/>	2.8	<input type="checkbox"/>	2.9	<input type="checkbox"/>	2.10	<input type="checkbox"/>	2.11	<input type="checkbox"/>
Science & Technology	3.1	<input checked="" type="checkbox"/>	3.2	<input checked="" type="checkbox"/>	3.3	<input type="checkbox"/>	3.4	<input type="checkbox"/>	3.5	<input type="checkbox"/>	3.6	<input type="checkbox"/>	3.7	<input checked="" type="checkbox"/>	3.8	<input type="checkbox"/>	3.9	<input type="checkbox"/>				
Environment & Ecology	4.1	<input type="checkbox"/>	4.2	<input type="checkbox"/>	4.3	<input type="checkbox"/>	4.4	<input type="checkbox"/>	4.5	<input type="checkbox"/>	4.6	<input type="checkbox"/>	4.7	<input type="checkbox"/>	4.8	<input checked="" type="checkbox"/>	4.9	<input type="checkbox"/>				
Civics & Government	5.1	<input type="checkbox"/>	5.2	<input type="checkbox"/>	5.3	<input type="checkbox"/>	5.4	<input type="checkbox"/>														
Economics	6.1	<input type="checkbox"/>	6.2	<input type="checkbox"/>	6.3	<input checked="" type="checkbox"/>	6.4	<input type="checkbox"/>	6.5	<input checked="" type="checkbox"/>												
Geography	7.1	<input type="checkbox"/>	7.2	<input type="checkbox"/>	7.3	<input type="checkbox"/>	7.4	<input type="checkbox"/>														
History	8.1	<input type="checkbox"/>	8.2	<input type="checkbox"/>	8.3	<input type="checkbox"/>	8.4	<input type="checkbox"/>														
Arts & Humanities	9.1	<input type="checkbox"/>	9.2	<input type="checkbox"/>	9.3	<input type="checkbox"/>	9.4	<input type="checkbox"/>														
Health, Safety & PE	10.1	<input type="checkbox"/>	10.2	<input type="checkbox"/>	10.3	<input checked="" type="checkbox"/>	10.4	<input type="checkbox"/>	10.5	<input type="checkbox"/>												
Family & Consumer Science	11.1	<input type="checkbox"/>	11.2	<input type="checkbox"/>	11.3	<input type="checkbox"/>	11.4	<input type="checkbox"/>														
Career Education & Work		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>														

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ESSENTIAL CONTENT OUTCOMES/STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES <i>(Individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful:</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 4</p> <p>What is the System's Model?</p> <p>How is the Systems Model used in production?</p>	<p>Describe the System's Model.</p> <p>Evaluate the use of the System's Model to solve specific problems.</p>	<p>Quizzes</p> <p>Short Answer</p> <p>Demonstration</p>	<p>Handout</p>