

Paulsboro Schools



Curriculum

Construction Technology I-II

Grade: 9-12

2012 - 2013

*** For adoption by all regular education programs
Board Approved: <Month Year>**

PAULSBORO SCHOOL DISTRICT

Number Sense;

- (4.1): ALL STUDENTS WILL GAIN A PRACTICAL EXPOSURE TO MATHEMATICAL THEORIES AS RELATED TO THE CONSTRUCTION TRADES.

Measuring;

- (4.2): ALL STUDENTS WILL BE ABLE TO ACCURATELY USE MEASURING TOOLS TO PREPARE ASSIGNMENTS AS REQUIRED FOR ROUGH & FINAL PROJECT REQUIREMENTS.

Table & Graphs;

- (4.3): ALL STUDENTS WILL BE ABLE TO ACCESS WOOD TRADE INFORMATION.

Probability Estimate;

- (4.4): ALL STUDENTS WILL BE ABLE TO PROPERLY ESTIMATE PROJECT ASSIGNMENT.

Problem Solving;

- (4.5): ALL STUDENTS WILL BE ABLE TO DEVELOP BASIC PROBLEM SOLVING SKILLS AS RELATED TO THEIR INDIVIDUAL OR GROUP PROJECT ASSIGNMENTS.

Computer & Information Literacy

- (8.1): ALL STUDENTS WILL USE COMPUTER APPLICATIONS TO GATHER AND ORGANIZE INFORMATION AND SOLVE RELATED WOODWORKING PROBLEMS.

Career & Technical Education

- (9.1): ALL STUDENTS WILL DEVELOP CAREER AWARENESS AND PLANNING, EMPLOYABILITY SKILLS, AND FOUNDATIONAL KNOWLEDGE NECESSARY FOR SUCCESS IN THE WORKFORCE.

Consumer, Family, and Life Skills

- (9.2): ALL STUDENTS WILL DEMONSTRATE CRITICAL LIFE SKILLS IN ORDER TO BE FUNCTIONAL MEMBERS OF SOCIETY.

as specified and for adoption or adaptation by
all Special Education Programs in accordance
with Board of Education Policy.

PAULSBORO SCHOOL DISTRICT

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Dr. Frank Scambia

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YOUR NAME, Margaret LaDue

*Greenwich Township Board of Education Representative

Paulsboro Schools Mission Statement

The mission of the Paulsboro School District is to provide each student educational opportunities to assist in attaining their full potential in a democratic society.

Our instructional programs will take place in a responsive, community based school system that fosters respect among all people.

Our expectation is that all students will achieve the New Jersey Core Curriculum Content Standards (NJCCCS) at every grade level.

Scope and Sequence Map

Marking Period (1)

Industrial Technology i-ii

This course is designed as a transformation from the antiquated area of Industrial Arts to the more demanding field of Construction Technology. What is construction technology and why it is important to our survival? Studying the industrial tech system of construction will help to answer these questions. Topics in this course will range from how construction meets the needs of our society to the actual construction of a structure.

These activities include working with construction tools & materials, laying out a site, planning, organizing, control and researching careers with-in the industry.

Marking Period (2)
<u>Industrial Technology I-II</u> Interactions with other subject areas will enrich the learning experiences of the students. These interactive activities will offer the students an opportunity to develop a certain skill. The skill that can be developed is in the area of math, science, social studies, computer literacy, communications and the touch of real life skills. The advantages of these interactions will have a direct effect on the outcomes of the HSPA's & SAT's.

Scope and Sequence Map Page 2

Marking Period (3)

Industrial Technology I-II

Higher-level thinking skills are those that encourage students to go beyond simply remembering facts. These skills include the ability to reason, to make realistic and careful judgments and to formulate creative solutions to problems. This course is designed to encourage the student to think about what they are learning and see its application to their own lives.

Marking Period (4)
<u>Industrial Technology I-II</u>
Students will be required to apply what they have learned so far to an activity situation. They must think about the facts provided for them and come up with a solution, They must also consider the impacts their solution may have. This phase of the course will be implemented through TLA's (Technology Learning Activities). It will be conducted as an individual, team or as an inter-department competition.

Core Curriculum
Marking Period (1)

Construction I-II Grade: 9-12	Suggested days of instruction Mon. Tues. Wed. Thur. Fri.
Quarter 1 Objective/ Cluster Concept/ Cumulative Progress Indicators Taken from CPI's in NJCCCS standards http://www.nj.gov/education/aps/cccs/ NJCCCS: 9.4.12.I.(4).2 9.4.12.I.(4).3 9.4.12.I.(4).4 9.4.12.I.(4).5 9.4.12.B.40 9.4.12.B.41 9.4.12.B.42 9.4.12.B.43 9.4.12.B.44 9.4.12.B.45 9.4.12.B.46 9.4.12.B.47	<u>MASTER GOAL FOR THE YEAR</u> . Students in this class will use information and skills acquired in the Construction Systems course to perform actual carpentry projects. Tasks performed include: framing, exterior and interior finishes, roofing, reading and interpreting blueprints, and other various home repairs. This class is for those considering a career in the construction trades or for anyone that enjoys working with tools and wants to know about home repair and light construction. Topic: (name of unit) INTRODUCTION OF SAFETY PRINCIPLES Overarching Goals: * Students will be able to demonstrate proper safety Procedures. (Written & Hands-On) Goal 1: (what the student will be able to do at the end of the unit) Students will be able to: I. Demonstrate the use and understanding of safety

principles, which are applicable to the industry.

II. Demonstrate the safe and proper use of hand tools, portable power tools, and stationary machinery.

Goal II:

Students will be able to:

1.State basic safety rules

2.Explain how to avoid injury to themselves and others

3.Identify common hazards found in the woodshop.

Goal III:

Students will be able to:

1.Identify and use hand tools associated with the woodworking industry

2.Demonstrate the understanding of good design in the planning of a project.

3.Demonstrate the correct, safe procedures to use all hand tools, portable, and stationary equipment in the shop.

Learning Activities:

1.Hands-on demo of hand, portable, and stationary tools.

2.Q & A period

3.Safety quiz

Core Curriculum
Marking Period (2)

Woods: I-II-III-IV Grade: 9-12	Suggested days of instruction Mon. Tues. Wed. Thur. Fri.
Quarter 1 Objective/ Cluster Concept/ Cumulative Progress Indicators Taken from CPI's in NJCCCS standards http://www.nj.gov/education/aps/cccs/ NJCCCS:	Topic: (name of unit) Identification & use of common hand, portable & stationary machine tools.. Overarching Goals: (taken from Introduction, Philosophy and educational goals page, pg 4) Students will be able to identify common hand, portable & stationary tools.
	<u>Goal 1:</u> Students will be able to: 1.All students will gain a practical exposure to mathematical number theories as related to industry. 2.Use of proper info relating to the industry.

Goal II:

Students will be able to:

1. All students will be able to accurately use measuring tools to prepare project assignments

GOAL III:

Students will be able to:

1. All students will be able to properly estimate project assignment board footage.

Essential Questions:

1. Why is math important?
2. Why respect other student's opinions?
3. Why is proper estimations important?

Learning Activities:

1. Various TLA activities.
2. Personal and group related.
3. Exchange of ideas.

Core Curriculum:
Marking Period (3)

Woods: I-II-III-IV Grade; 9-12	Suggested days of instruction Mon. Tues. Wed. thur. Fri.
Quarter 1 Objective/ Cluster Concept/ Cumulative Progress Indicators Taken from CPI's in NJCCCS standards http://www.nj.gov/education/aps/cccs/	Topic: (name of unit) Provide students with overview of the construction process. Stress site preparation and layout, excavation, foundation, building the structure, enclosing, utilities and finish work. Overarching Goals: (taken from Introduction, Philosophy and educational goals page, pg 4) <u>Goal 1:</u> (what the student will be able to do at the end of the unit) Students will be able to: 1.Design and create a prototype for a house design. 2.Material estimates.
NJCCCS: 8.2.2.A.1 8.2.4.A.1 8.2.4.A.2	

8.2.8.A.1
8.2.2.C.1
8.2.4.C.1
8.2.4.C.2
8.2.4.C.3
8.2.12.B.3

GOAL I:

Students will be able to:

- 1.Demonstrate how reusing a product affects local and global environment & building codes.
- 2.Explain the impact of disposing of materials in a responsible way.

GOAL III:

Students will be able to:

1. Use of proper math equations.

GOAL IV:

Students will be able to:

- 1.Equate advantages of sharing ideas & thoughts with other students.

Essential Questions:

- 1.What's your thoughts
- 2.Alternatives.

Learning Activities:

1. Various TLA's
- 2.Working as a group
- 3.Sharing ideas

Core Curriculum:
Marking Period (4)

Woods; I-II-III-IV Grade: 9-12	Suggested days of instruction Mon. Tues. Wed. Thur. Fri.
Quarter 1 Objective/ Cluster Concept/ Cumulative Progress Indicators	Topic: (name of unit) Preparing for construction careers. This year's course has exposed students to various careers, provide careers, provide opportunities for direct follow-up. Overarching Goals: (taken from Introduction, Philosophy and educational

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

Goal 1: (what the student will be able to do at the end of the unit)

Students will be able to:

1. Understand the nature and impact of technology and related careers available to them.
2. Analyze the capabilities and limitations of current and emerging technology resources.
3. Address potential educational & career resources.

GOAL II:

Students will be able to:

1. Describe how technology products, systems, and resources are useful at school, home, and work
2. Investigate factors that influence the development and function of technology.
3. Explain the impact of globalization on the development of a technological system over time.

GOAL III:

NJCCCS:

- 8.2.2.B.1
- 8.2.2.B.2
- 8.2.4.B.1
- 8.2.4.B.2
- 8.2.4.B.3
- 8.2.4.B.4
- 8.2.8.B.1
- 8.2.8.B.2
- 8.2.8.B.3
- 8.2.12.B.1

	1.Design an alternative use for an existing product. 2.Brainstorm and devise a plan to repair a broken toy or tool using the design process. 3.Design and create a product that addresses a real-world problem using the design process.		
	<table> <tr> <td data-bbox="40 762 961 1551"> Essential Questions: 1.Environment effects. 2.Building code info. 3.Alternatives. </td><td data-bbox="40 35 961 762"> Learning Activities: 1.Various TLA activities 2.Exchanging ideas. 3.Brainstorming </td></tr> </table>	Essential Questions: 1.Environment effects. 2.Building code info. 3.Alternatives.	Learning Activities: 1.Various TLA activities 2.Exchanging ideas. 3.Brainstorming
Essential Questions: 1.Environment effects. 2.Building code info. 3.Alternatives.	Learning Activities: 1.Various TLA activities 2.Exchanging ideas. 3.Brainstorming		

Core Curriculum:

Curriculum Management system. They are the things your students will be able to do when they are finished this course.

Students will be able to:

- 1. Work safely and efficiently in a shop environment .**
- 2. Work safely with hand & power tools.**
- 3. Apply background info about the nature of the project.**
- 4. Use tools and machines for layout work and prototyping to complete the design challenge.**
- 5. Construct a project out of wood and other materials that will display the techniques learned and practiced.**
- 6. Apply info learned about problem solving and tool usage to design and construct school and personal projects.**