Washington Township Public Schools
COURSE OF STUDY – CURRICULUM GUIDE

Course: Construction Technology I

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Under the Direction of: Steve Whalen

Description: Construction Technology I provides an orientation to the construction trade that meets industry standards. The course is standard based beginning with the NJSLS which includes Basic Safety, Construction Math, Introduction to Hand and Power Tools, Introduction to Blue Prints, and Careers and Employability Skills. Fundamentals of Construction are introduced including Floor, Wall, and Roof Systems and Structure Enclosures. Construction Tech I is a prerequisite to Construction Tech II.

Jack McGee: *Interim Assistant Superintendent for Curriculum & Instruction*
Gretchen Gerber: *Director of Elementary Education*
Cleve Bryan: *Interim Director of Secondary Education*

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Revised:
BOE Approval: SEPTEMBER, 2015

DEMONSTRABLE PROFICIENCIES

COURSE TITLE: Construction Technology I

I. CLASSWORK REQUIREMENTS

A. Keep an organized folder, complete with written notes, handouts, worksheets, assignments and examples of class work.
B. In order to use any machine all safety quizzes must be completed with a 100% or a retake will be given.
C. Students must be attentive and effectively following directions.
D. Students must exhibit responsibility by bringing a pencil to class every day.
E. Student resource materials should be legible, well organized, and attention to detail must be noted.
F. Short-term problem applications will be assigned when appropriate.
G. Follow all safety and clean-up rules.
H. Students will take periodic tests and quizzes including a midterm and final exam.
I. When needed students will be required to bring in supplemental funds for hardware, clock parts, etc.

II. ATTITUDE & BEHAVIOR

The student will demonstrate proper behavior as outlined in the school handbook. In addition to the general rules, special attention must be paid to safety in the classroom, following directions, listening skills, respect for others and their property, responsibility and proper work habits. Since there is a large amount of expensive and dangerous machinery in the classroom, appropriate student conduct is necessary to provide a quality and safe work environment. Students are expected to use tools, machines and computers for their intended use.

III. COURSE OBJECTIVES/OVERVIEW

A. **COURSE CONTENT**

1. Information
   a. Basic knowledge of technological systems.
   b. Knowledge and safe use of all tools, equipment and machines.
   c. Basic knowledge of construction math and measurement.

B. SKILLS

1. Safety
2. Project Planning
3. Construction Math and Measurement
4. Use of Hand Tools
5. Use of Power Tools
6. Framing
7. Interior Finishing
8. Careers

C. APPRECIATION OF CONCEPTS

a. An appreciation for organization and orderliness of one's materials to enhance the expediency of performing a task.
b. An ability to analyze and reproduce select information.
c. The ability to adjust quickly to equipment, program, and procedure changes.
d. Increased awareness of the amount of planning and design that goes into the development, construction of any project.
e. The importance of selecting a career that is associated to personal interests.

IV. ATTENDANCE

Attendance: Refer to Board of Education Policy

V. GRADING PROCEDURE

A. Total Points- All assignments, projects, tests and quizzes will be given specific points based on a level of work/time required. Students will earn points for fulfilling the requirement for each activity. A rubric will be provided prior to each assignment/activity so that each student will know their value. Student marking period grades will be based on the points earned divided by the total points assigned. The percentage of points earned will be the student's marking period grade.

B. Grading Criteria-

1. Class Participation
2. Class Work and Home Work
3. Tests and Quizzes
4. Individual Project Work
5. Group Project Work (consist of the final performance of your group's ability to meet requirements)

Semester 1 Grade (S1) is calculated: (50% of Y1) MP1=20%, MP2= 20%, Mid-term(X1) exam= 10%

Semester 2 Grade (S2) is calculated: (50% of Y1) MP3= 20%, MP4= 20%, Final (X2) exam = 10%

Final Grade (Y1) is calculated: S1 + S2 = Y1

MAJOR UNITS OF STUDY

Course Title: Construction Technology I

I. **Introduction to Course and Room Procedures**
II. **Shop and Occupational Safety Skills**
III. **Basic Blueprint Reading and Drawing Skills**
IV. **Construction Math and Measurement Skills**
V. **Hand and Power Tools**
VI. **Rough Framing**
VII. **Interior Enclosure Treatments**
VIII. **Careers**

UNIT OVERVIEW

Course Title: Construction Technology I

Unit #: **UNIT 1 OVERVIEW** **Unit Title:** Introduction to Course and Room Procedures

Unit Description and Objectives:

Students are given a tour of the facilities with an emphasis safety. They are introduced to the resources at hand for the process of design and woodworking. An overview of the course is presented with emphasis on learning activities and types of issues that will be explored. Students are also told what to do and where to go in the event of an emergency. Basic classroom expectations regarding behavior and work ethic are discussed.

Essential Questions and Enduring Understandings:

Essential Questions:	Enduring Understandings/Generalizations Students will understand that:	Guiding Questions
1. What is the purpose of a facilities safety and health program?	1. The importance of following proper safety protocol	1.1 How should you dress when operating machinery in a shop? 1.2 What is the purpose of a "power cut-off switch?"
2. What is the purpose of facilities evacuation and lockdown protocol?	2. The district has a safety and evacuation program in place to keep them safe in a variety of different life threatening situations	2.1 Where does our class go during a lockdown? 2.2 What is the evacuation route for a fire drill?

CURRICULUM UNIT PLAN

Course Title/Grade: Construction Technology 1/ 9-12
Unit Number/Title: Unit I- Introduction to Course and Room Procedures
Conceptual Lens:
Appropriate Time Allocation (# of Days)**:** 1 Week

Primary Content Standards referenced With Cumulative Progress Indicators			
9.3.12.AR 4	9.3.ST-ET.4		
9.3.12.AR.B4			
9.3.IT-SUP.2-3			

Topics/Concepts (Incl. time / # days per topic)	**Critical Content (Students Will Know:)**	**Skill Objectives (Students Will Be Able To:)**	**Instructional/Learning Activities & Interdisciplinary Connections**	**Instructional Resources**	**Technology & 21st C Skills Integration (Specify)**	**NJSLS w/ CPI Reference**	**Evaluation/ Assessment:**
A. Classroom expectations 1. Behavior 2. Grading procedure 3. Attendance 4. Lateness 5. Housekeeping **B.** Egress/Evacuation 1. Fire Drill 2. Evacuation 3. Lock-down 4. Intruder **C.** Tools of the Lab 1. Work Benches/Vises 2. Measuring Tools 3. Hand Tools 4. Power Tools 5. Cabinets and Storage **D.** Lab Layout **E.** Introduction to Course	1. What the consequences of unexcused lateness are. 2. What the procedures are for making up work after being absent. 3. Where to go during a fire drill. 4. Where to go and what to do during any of the other emergencies. 5. Where the tools and storage cabinets are located. 6. The general layout of the lab as it relates to their assigned seat. 7. The procedures for maintaining a clean lab. 8. How activities are evaluated.	1. Explain what will happen on their third unexcused lateness of less than two minutes; of between 2 and 5 minutes; more than 5 minutes. 2. Locate the designated area(s) for all emergencies. 3. Locate tools and storage cabinets within the design lab. 4.Sit in their assigned seats. 5. Maintain their individual work area as well as the lab with regard to proper clean-up after each period as required. 6. State the various categories used in the grade breakdown.	1. Students go outside to observe the location of their designated area for a fire drill. 2. Students and teacher discuss the different emergencies and what to do and where to go under various circumstances. 3. Teacher demonstrates location of all storage areas and tool cabinets. 4. Teacher demonstrates clean-up procedures. 5. Teacher discusses grading and evaluative processes. 6. Teacher/student discussion of current and/or past issues and problems in the areas of woodworking and construction.	-Student Handbook -Textbook -Students will be given a copy of; • Course Proficiencies • General Safety Rules • Rules and Regulations of class(to be signed by student and parent)	9.3.12.AR 4 9.3.12.AR.B4 9.3.IT-SUP.2-3 9.3.ST-ET.4	8.2.a.1-3 8.2.b.1-6 8.2.c.1-3	**Formative Assessment:** 1. Safety Quiz **Summative Assessment** -Benchmark -Midterm

Unit Modifications for Special Population Students:

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners	Learners with an IEP	Learners with a 504
• Assist students in getting organized. • Give short directions. • Use drill exercises. • Give prompt cues during student performance. • Let students with poor writing skills use a computer. • Break assignments into small segments and assign only one segment at a time. • Demonstrate skills and have students model them. • Give prompt feedback. • Use continuous assessment to mark students' daily progress. • Prepare materials at varying levels of ability.	• Provide ample opportunities for creative behavior. • Create assignments that call for original work, independent learning, critical thinking, problem solving, and experimentation. • Show appreciation for creative efforts • Respect unusual questions, ideas, and solutions. • Encourage students to test their ideas. • Provide opportunities and give credit for self-initiated learning. • Avoid overly detailed supervision and too much reliance on prescribed curricula. • Allow time for reflection. • Resist immediate and constant evaluation. • Avoid comparisons to other students.	• Use a slow, but natural rate of speech; speak clearly; use shorter sentences; repeat concepts in several ways. • When possible, use pictures, photos, and charts. • Corrections should be limited and appropriate. Do not correct grammar or usage errors in front of the class. • Give honest praise and positive feedback through your voice tones and visual articulation whenever possible. • Encourage students to use language to communicate, allowing them to use their native language to ask/answer questions when they are unable to do so in English. • Integrate students' cultural background into class discussions. • Use cooperative learning where students have opportunities to practice expressing ideas without risking language errors in front of the entire class.	Each special education student has in Individualized Educational Plan (IEP) that details the specific accommodations, modifications, services, and support needed to level the playing field. This will enable that student to access the curriculum to the greatest extent possible in the least restrictive environment. These include: • Variation of time: adapting the time allotted for learning, task completion, or testing • Variation of input: adapting the way instruction is delivered • Variation of output: adapting how a student can respond to instruction • Variation of size: adapting the number of items the student is expected to complete • Modifying the content, process or product Additional resources are outlined to facilitate appropriate behavior and increase student engagement. The most frequently used modifications and accommodations can be viewed here. Teachers are encouraged to use the Understanding by Design Learning Guidelines (UDL). These guidelines offer a set of concrete suggestions that can be applied to any discipline to ensure that all learners can access and participate in	• Refer to page four in the Parent and Educator Guide to Section 504 to assist in the development of appropriate plans.

			learning opportunities. The framework can be viewed here www.udlguidelines.cast.org	

UNIT OVERVIEW

Course Title: Construction Technology I

Unit #: **UNIT 2 OVERVIEW** **Unit Title:** Shop and Occupational Safety Skills

Unit Description and Objectives:

This unit is imperative as a building block to safe learning and participation in the lab setting. Issues to be discussed will include general safety rules, specific machine safety rules, personal safety issues, and working together in a safe class environment. The student will be acquainted with OSHA guidelines and how they affect the classroom and workplace.

Essential Questions and Enduring Understandings:

Essential Questions:	Enduring Understandings/Generalizations Students will understand that:	Guiding Questions
1. Identify work safety issues?	1. Various skills are in demand by employers who	1.1 Identify situations that require eye

	require an understanding of both safety and tool operation.	protection. 1.2 Identify and describe the warming signs posted in the shop.
2. Describe the inspection process by OSHA?	2. Government regulations are in place to ensure a safe and healthy working environment.	2.1 What does OSHA stand for? 2.2 Describe safety precautions for working with ladders.

UNIT PLAN

Course Title/Grade: Construction Technology I / 9-12
Unit Number/Title: Unit 2-Shop and Occupational Safety Skills
Conceptual Lens:
Appropriate Time Allocation (# of Days)**:** 3 Weeks

Primary Content Standards referenced With Cumulative Progress Indicators			
9.3.12.AC-CST.5	9.3.MN.3		
9.3.12.AC-CST.9	9.3.MN-HSE.1-7		
9.3.12.AC-MO.1			

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJSLS w/ CPI Reference	Evaluation/ Assessment:
A. Job Safety 1. Safety Regulations a. OSHA 2. Good House Keeping 3. Fire Prevention B. Personal Safety and Health 1. Responding to Emergencies 2. Hazards on the Job Site a. Falls and Falling Objects b. Electrical Hazards	1. The expectations of the student to maintain a safe working/learning environment. 2. Explanation of specific hand tool safety. 3. Explanation of specific machine safety. 4. Explanation of who and what OSHA is -	1. Understand their role in the safe operation of the class. 2. Explain individual safety for specific hand tools. 3. Explain individual safety for specific pieces of shop machinery. 4. Explain what OSHA does for individuals and working organizations.	1. Students and teacher discuss the different emergencies and what to do and where to go under various circumstances 2. Describe safety precautions for working with ladders 3. Explain the importance of good house keeping 4. Discuss safety precautions around moving machinery 5. Identify conditions that require safety protections	-Modern Carpentry Textbook *Chapter 1* -Projector -Computer -Handouts -Examples of safety signs throughout the classroom -Location of power switch	9.3.12.AC-CST.5 9.3.12.AC-CST.9 9.3.12.AC-MO.1 9.3.MN.3 9.3.MN-HSE.1-7	8.2.12.C.3 8.2.12.D.3 8.2.12.D.5	**Formative Assessment:** 1. General Shop Safety Quiz 2. Performance quiz on proper ladder usage **Summative Assessment** -Benchmark TEST -Midterm EXAM -Final Exam

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJSLS w/ CPI Reference	Evaluation/ Assessment:
c. Preventing Tool Injury d. Lifting and Carrying Objects e. Personal Protective Equipment	Occupational safety and Health Act. 5. Proper room clean-up procedures.	5. Explain the plan for room clean-up.	6. List the common hazardous materials 7. State reasons for Materials Safety Data Sheet				

Unit Modifications for Special Population Students:

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners	Learners with an IEP	Learners with a 504
• Assist students in getting organized. • Give short directions. • Use drill exercises. • Give prompt cues during student performance. • Let students with poor writing skills use a computer. • Break assignments into small segments and assign only one segment at a time. • Demonstrate skills and have students model them. • Give prompt feedback. • Use continuous assessment to mark students' daily progress. • Prepare materials at varying levels of ability.	• Provide ample opportunities for creative behavior. • Create assignments that call for original work, independent learning, critical thinking, problem solving, and experimentation. • Show appreciation for creative efforts • Respect unusual questions, ideas, and solutions. • Encourage students to test their ideas. • Provide opportunities and give credit for self-initiated learning. • Avoid overly detailed supervision and too much reliance on prescribed curricula. • Allow time for reflection. • Resist immediate and constant evaluation. • Avoid comparisons to other students.	• Use a slow, but natural rate of speech; speak clearly; use shorter sentences; repeat concepts in several ways. • When possible, use pictures, photos, and charts. • Corrections should be limited and appropriate. Do not correct grammar or usage errors in front of the class. • Give honest praise and positive feedback through your voice tones and visual articulation whenever possible. • Encourage students to use language to communicate, allowing them to use their native language to ask/answer questions when they are unable to do so in English. • Integrate students' cultural background into class discussions. • Use cooperative learning where students have opportunities to practice expressing ideas without risking language errors in front of the entire	Each special education student has in Individualized Educational Plan (IEP) that details the specific accommodations, modifications, services, and support needed to level the playing field. This will enable that student to access the curriculum to the greatest extent possible in the least restrictive environment. These include: • Variation of time: adapting the time allotted for learning, task completion, or testing • Variation of input: adapting the way instruction is delivered • Variation of output: adapting how a student can respond to instruction • Variation of size: adapting the number of items the student is expected to complete • Modifying the content, process or	• Refer to page four in the Parent and Educator Guide to Section 504 to assist in the development of appropriate plans.

		class.	product Additional resources are outlined to facilitate appropriate behavior and increase student engagement. The most frequently used modifications and accommodations can be viewed here. Teachers are encouraged to use the Understanding by Design Learning Guidelines (UDL). These guidelines offer a set of concrete suggestions that can be applied to any discipline to ensure that all learners can access and participate in learning opportunities. The framework can be viewed here www.udlguidelines.cast.org	

UNIT OVERVIEW

Course Title: Construction Technology I

Unit #: **UNIT 3 OVERVIEW** **Unit Title:** Basic Blueprint Reading and Drawing Skills

Unit Description and Objectives:

This unit is an introduction to basic blueprint terms, components and symbols. Students will learn how to use grid lines to identify plan locations. The difference between scale and ratio will be defined. Discussion on the importance of understanding how to read dimensions on construction drawings. Explanation and demonstration of various types of design and drawing practices will take place.

Essential Questions and Enduring Understandings:

Essential Questions:	**Enduring Understandings/Generalizations** **Students will understand that:**	**Guiding Questions**
1. What is the purpose of using different abbreviations and symbols in blueprints?	1. Blueprints are a set of plans used in the building trades.	1.1 Identify the common lines used in blueprints. 1.2 Define the abbreviations used on blueprints. 1.3 Compare keynotes with symbols
2. List advantages and disadvantages of each type of pictorial drawing.	2. The purpose of engineering drawing is to convey graphically the ideas and information necessary for analysis and construction.	2.1 List three types of pictorial drawing. 2.2 List three types of perspective

CURRICULUM UNIT PLAN

Course Title/Grade: Construction Technology I / 9-12
Unit Number/Title: Unit 3- Basic Blueprint Reading and Drawing Skills
Conceptual Lens:
Appropriate Time Allocation (# of Days)**:** 6 Weeks

Primary Content Standards referenced With Cumulative Progress Indicators			
9.1.12.A.1-4	9.3.12.D(1).2-4	9.3.12.E.26	
9.1.12.B.1-3	9.3.12.E.2	9.3.12.E.30	
9.1.12.C.1	9.3.12.E.15	9.3.12.E.32	

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJSLS w/ CPI Reference	Evaluation/ Assessment:
A. Drawing and Measurement 1. Types of Drawings 2. Measuring Systems 3. Understanding Scale B. Architectural Drawings 1. Elements of Drawing 2. CAD and Design C. Using Plans 1. Plan Views 2. Elevation 3. Section Views 4. Detail Drawings 5. Engineering Drawings 6. Renderings	1. The elements used in architectural drawings 2. Why scale and ratio are important when making an architectural drawing 3. The different symbols used in an architectural drawing 4. The difference between an elevation plan and a floor plan	1. Define scale and ratio 2. Explain how scale and ratio are used in architectural drawings 3. Make an architectural drawing of the classroom 4. Read and understand an architectural ruler 5.	1. Lecture and class discussions. 2. Demonstrations on how to properly read a architectural ruler 3. Practical labs 4. Students will make a sketch of their bedroom 5. Selecting appropriate measure device 6. Reading assignments on blueprint reading and drawing skills	-Modern Carpentry Textbook *Chapters 7 and 8* -Projector -Computer -Handouts -Examples of various types of blueprints	9.1.12.A.1-4 9.1.12.B.1-3 9.1.12.C.1 9.3.12.D(1).2-4 9.3.12.E.2 9.3.12.E.15 9.3.12.E.26 9.3.12.E.30 9.3.12.E.32	8.2.12.E.1 8.2.12.F.3 8.2.12.G.1 8.2.12.B.1 8.2.12.B.1	**Formative Assessment:** 1. Reading a ruler 2. Using a ruler to measure a given object 3. Drawing exercises 4. Math worksheets 5. Calculating board, square, and lineal feet. 6. Ratio and scale 7. Identifying blueprint symbols **Summative Assessment** -Benchmark TEST -Midterm EXAM -Final EXAM

Unit Modifications for Special Population Students:

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners	Learners with an IEP	Learners with a 504
• Assist students in getting organized. • Give short directions. • Use drill exercises. • Give prompt cues during student performance. • Let students with poor writing skills use a computer. • Break assignments into small segments and assign only one segment at a time. • Demonstrate skills and have students model them. • Give prompt feedback. • Use continuous assessment to mark students' daily progress. • Prepare materials at varying levels of ability.	• Provide ample opportunities for creative behavior. • Create assignments that call for original work, independent learning, critical thinking, problem solving, and experimentation. • Show appreciation for creative efforts • Respect unusual questions, ideas, and solutions. • Encourage students to test their ideas. • Provide opportunities and give credit for self-initiated learning. • Avoid overly detailed supervision and too much reliance on prescribed curricula. • Allow time for reflection. • Resist immediate and constant evaluation. • Avoid comparisons to other students.	• Use a slow, but natural rate of speech; speak clearly; use shorter sentences; repeat concepts in several ways. • When possible, use pictures, photos, and charts. • Corrections should be limited and appropriate. Do not correct grammar or usage errors in front of the class. • Give honest praise and positive feedback through your voice tones and visual articulation whenever possible. • Encourage students to use language to communicate, allowing them to use their native language to ask/answer questions when they are unable to do so in English. • Integrate students' cultural background into class discussions. • Use cooperative learning where students have opportunities to practice expressing ideas without risking language errors in front of the entire class.	Each special education student has in Individualized Educational Plan (IEP) that details the specific accommodations, modifications, services, and support needed to level the playing field. This will enable that student to access the curriculum to the greatest extent possible in the least restrictive environment. These include: • Variation of time: adapting the time allotted for learning, task completion, or testing • Variation of input: adapting the way instruction is delivered • Variation of output: adapting how a student can respond to instruction • Variation of size: adapting the number of items the student is expected to complete • Modifying the content, process or product Additional resources are outlined to facilitate appropriate behavior and increase student engagement. The most frequently used modifications and accommodations can be viewed here. Teachers are encouraged to use the Understanding by Design Learning Guidelines (UDL). These guidelines offer a set of concrete suggestions that can be applied to any discipline to ensure that all learners can access and participate in learning opportunities. The framework can be viewed here www.udlguidelines.cast.org	• Refer to page four in the Parent and Educator Guide to Section 504 to assist in the development of appropriate plans.

UNIT OVERVIEW

Course Title: Construction Technology I

Unit #: **UNIT 4 OVERVIEW** **Unit Title:** Construction Math and Measurement Skills

Unit Description and Objectives:
Construction workers communicate and make decisions using math. Math is used as both a precision and artistry in construction. This unit is an introduction to the types of math used throughout the construction industry.

Essential Questions and Enduring Understandings:

Essential Questions:	**Enduring Understandings/Generalizations** **Students will understand that:**	**Guiding Questions**
1. What is the importance of good math skills when it comes to estimating?	1. There are basic shapes used in geometry that relate directly to the construction industry.	1.1 How can you find the perimeter of a fenced in yard 1.2 How do you find the square footage of a circulars room? .
2. Name some examples in which a carpenter might need to use math	2. Carpenters use measuring and math for calculating such things as rafters, girders and floors.	2.1 How many inches are in a foot? 2.2 How many total degrees are in a tri 2.3 Etc.

CURRICULUM UNIT PLAN

Course Title/Grade: Construction Technology I / 9-12
Unit Number/Title: Unit 4-Construction Math and Measurement Skills
Conceptual Lens:
Appropriate Time Allocation (# of Days)**:** 5 Weeks

Primary Content Standards referenced With Cumulative Progress Indicators
9.3.12.AC.1
9.3.12.AC.2
9.3.12.AC.6

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know)	Skill Objectives (Students Will Be Able To)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJSLS w/ CPI Reference	Evaluation/ Assessment:
A. Identifying basic mathematical terms and symbols 1. Whole numbers 2. Fractions 3. Decimals 4. Units B. Perform mathematical operation using whole numbers 1. Add 2. Subtract 3. Multiply 4. Divide C. Perform calculations using fractions, decimals , and percentages 1. Add 2. Subtract 3. Multiply 4. Divide D. Demonstrate knowledge of basic geometry 1. Shapes 2. Volume 3. Perimeter 4. Square footage 5. Angles	1. How fractions divide whole units into parts. 2. How to add, subtract, divide and multiply fractions. 3. The various types of angles. 4. How to calculate the volume of a cube. 5. How to determine square footage. 6. How to use the Pythagorean formula on a right triangle.	1. How to estimating construction costs 2. Use a standard ruler and metric ruler to measure3. 3. Use an architect's scale on a blueprint 4. Determine how much material is needed for a particular job (siding, drywall, shingles, etc.) 5. Identify circumference, diameter, and radius of a circle 6. Find the perimeter of a given shape.	1. Lecture and class discussions. 2. Demonstrations on how to properly read a architectural ruler 3. Practical labs 4. Students determine the volume of a given shape 5. Selecting appropriate measure device 6. Students will calculate how much tile and paint is needed for the classroom	-Modern Carpentry Textbook *Chapters 7 and 8* -Construction Math Workbook -Projector -Computer -Handouts -Examples of various types of measuring devices	9.3.12.AC.1 9.3.12.AC.2 9.3.12.AC.6	8.2.12.E.1 8.2.12.F.3 8.2.12.G.1 8.2.12.B.1 8.2.12.B.1	**Formative Assessment:** 1. Reading a ruler 2. Using a ruler to measure a given object 3. Math worksheets 4. Calculating board, square, and lineal feet. 5. Determine amount and cost of building materials needed to paint and carpet their bedrooms **Summative Assessment(s)** -Benchmark -Midterm EXAM -Final Exam

Unit Modifications for Special Population Students:

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners	Learners with an IEP	Learners with a 504
• Assist students in getting organized. • Give short directions. • Use drill exercises. • Give prompt cues during student performance. • Let students with poor writing skills use a computer. • Break assignments into small segments and assign only one segment at a time. • Demonstrate skills and have students model them. • Give prompt feedback. • Use continuous assessment to mark students' daily progress. • Prepare materials at varying levels of ability.	• Provide ample opportunities for creative behavior. • Create assignments that call for original work, independent learning, critical thinking, problem solving, and experimentation. • Show appreciation for creative efforts • Respect unusual questions, ideas, and solutions. • Encourage students to test their ideas. • Provide opportunities and give credit for self-initiated learning. • Avoid overly detailed supervision and too much reliance on prescribed curricula. • Allow time for reflection. • Resist immediate and constant evaluation. • Avoid comparisons to other students.	• Use a slow, but natural rate of speech; speak clearly; use shorter sentences; repeat concepts in several ways. • When possible, use pictures, photos, and charts. • Corrections should be limited and appropriate. Do not correct grammar or usage errors in front of the class. • Give honest praise and positive feedback through your voice tones and visual articulation whenever possible. • Encourage students to use language to communicate, allowing them to use their native language to ask/answer questions when they are unable to do so in English. • Integrate students' cultural background into class discussions. • Use cooperative learning where students have opportunities to practice expressing ideas without risking language errors in front of the entire class.	Each special education student has in Individualized Educational Plan (IEP) that details the specific accommodations, modifications, services, and support needed to level the playing field. This will enable that student to access the curriculum to the greatest extent possible in the least restrictive environment. These include: • Variation of time: adapting the time allotted for learning, task completion, or testing • Variation of input: adapting the way instruction is delivered • Variation of output: adapting how a student can respond to instruction • Variation of size: adapting the number of items the student is expected to complete • Modifying the content, process or product Additional resources are outlined to facilitate appropriate behavior and increase student engagement. The most frequently used modifications and accommodations can be viewed here. Teachers are encouraged to use the Understanding by Design Learning Guidelines (UDL). These guidelines offer a set of concrete suggestions that can be applied to any discipline to ensure that all learners can access and participate in learning opportunities. The framework can be viewed here www.udlguidelines.cast.org	• Refer to page four in the Parent and Educator Guide to Section 504 to assist in the development of appropriate plans.

UNIT OVERVIEW

Course Title: Construction Technology I

Unit #: **UNIT 5 OVERVIEW** **Unit Title:** Hand and Power Tools

Unit Description and Objectives:

This unit is designed for the purpose of initiating the student to the use of both shop hand tools and portable power tools used during the duration of the course. A basic understanding is necessary for the student to know what tool to use, how to use the tool, and what results should be expected with the proper tool usage. Emphasis is placed on portable power tools and the evolution they have engineered in the building and construction fields. These new tools have created a need for more advanced training and understanding of the construction methods used in the job arena today.

Essential Questions and Enduring Understandings:

Essential Questions:	Enduring Understandings/Generalizations Students will understand that:	Guiding Questions
1. How do you determine which tools are most appropriate for a particular task?	1. Tools have specific functions and methods for usage	1. What are some of the hand tools commonly used in processing and production? 1.2 How do you decide what tool to use for a particular project?
2. What are the safety hazards when working with portable power tools	2. Tools have specific functions and methods for usage	2.1 Why are safety glasses required when working in the lab?
3. How do you determine which stationary power tool is the best one for a particular task	3. Stationary power tools require much more maintenance than other types of tools in order to function optimally	3.1 How would you clean up after using a table saw

CURRICULUM UNIT PLAN

Course Title/Grade: Construction Technology I / 9-12
Unit Number/Title: Unit 5- Hand and Power Tools
Conceptual Lens:
Appropriate Time Allocation (# of Days)**:** 6 Weeks

Primary Content Standards referenced With Cumulative Progress Indicators			
9.3.12.AC-CST.9	9.3.MN-MIR.2-3		
9.3.MN-HSE.1-7	9.3.MN-MIR.5		
9.3.MN.3	9.3.MN-PRO.5		

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJSLS w/ CPI Reference	Evaluation/ Assessment:
A. Hand Tools 1. Saws 2. Planers 3. Files 4. Assembly Tools a. Hammers b. Screw Drivers c. Nail Guns 5. Lay Out Tools B. Portable Power Tools 1. Drills 2. Routers 3. Saber Saws 4. Circular Saw 5. Sanders C. Stationary Power Tools 1. Table Saw 2. Band Saw 3. Scroll Saw 4. Miter Saw 5. Jointer 6. Planer 7. Drill Press 8. Router Table 9. Belt Sander 10. Drum Sander	1. The importance of the history of hand tools and how they evolved into modern trades. 2. The proper usage of shop hand tools. 3. How portable power tools have evolved to make tasks simpler. 4. How pneumatic and gas-fired impulse tools are similar. 5. The importance of proper maintenance of portable power tools. 6. The various types of safety necessary for proper operation of portable power tools.	1. Define numerous hand tools that are still useful parts in the construction trades. 2. Illustrate proper hand tool safety operation. 3. Choose the proper portable power tool necessary for a particular assignment. 4. Illustrate safe operation of all portable power tools used in the lab. 5. Define the differences in pneumatic, gas-fired, and manual portable power tools	1. Lecture and class discussions. 2. Demonstrations on how to safely use each tool. 3. Practical labs 4. Selecting appropriate tool for the task at hand. 5. Reading assignments on hand and power tool usage and safety.	-Modern Carpentry Textbook *Chapters 4 and 5* -Projector -Computer -Handouts -Examples of each type of hand tool -Examples of projects made by hand tools	9.3.12.AC-CST.9 9.3.MN-HSE.1-7 9.3.MN.3 9.3.MN-MIR.2-3 9.3.MN-MIR.5 9.3.MN-PRO.5	8.2.12.C.3 8.2.12.C.4	**Formative Assessment:** 1. Safety quiz on hand and power tool usage. 2. Performance test on hand and power tool selection and proper usage. 3. Identification Quiz **Summative Assessment** -Benchmark TEST -Midterm EXAM -Final Exam

Unit Modifications for Special Population Students:

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners	Learners with an IEP	Learners with a 504
• Assist students in getting organized. • Give short directions. • Use drill exercises. • Give prompt cues during student performance. • Let students with poor writing skills use a computer. • Break assignments into small segments and assign only one segment at a time. • Demonstrate skills and have students model them. • Give prompt feedback. • Use continuous assessment to mark students' daily progress. • Prepare materials at varying levels of ability.	• Provide ample opportunities for creative behavior. • Create assignments that call for original work, independent learning, critical thinking, problem solving, and experimentation. • Show appreciation for creative efforts • Respect unusual questions, ideas, and solutions. • Encourage students to test their ideas. • Provide opportunities and give credit for self-initiated learning. • Avoid overly detailed supervision and too much reliance on prescribed curricula. • Allow time for reflection. • Resist immediate and constant evaluation. • Avoid comparisons to other students.	• Use a slow, but natural rate of speech; speak clearly; use shorter sentences; repeat concepts in several ways. • When possible, use pictures, photos, and charts. • Corrections should be limited and appropriate. Do not correct grammar or usage errors in front of the class. • Give honest praise and positive feedback through your voice tones and visual articulation whenever possible. • Encourage students to use language to communicate, allowing them to use their native language to ask/answer questions when they are unable to do so in English. • Integrate students' cultural background into class discussions. • Use cooperative learning where students have opportunities to practice expressing ideas without risking language errors in front of the entire class.	Each special education student has in Individualized Educational Plan (IEP) that details the specific accommodations, modifications, services, and support needed to level the playing field. This will enable that student to access the curriculum to the greatest extent possible in the least restrictive environment. These include: • Variation of time: adapting the time allotted for learning, task completion, or testing • Variation of input: adapting the way instruction is delivered • Variation of output: adapting how a student can respond to instruction • Variation of size: adapting the number of items the student is expected to complete • Modifying the content, process or product Additional resources are outlined to facilitate appropriate behavior and increase student engagement. The most frequently used modifications and accommodations can be viewed here. Teachers are encouraged to use the Understanding by Design Learning Guidelines (UDL). These guidelines offer a set of concrete suggestions that can be applied to any discipline to ensure that all learners can access and participate in learning opportunities. The framework can be viewed here www.udlguidelines.cast.org	• Refer to page four in the Parent and Educator Guide to Section 504 to assist in the development of appropriate plans.

UNIT OVERVIEW

Course Title: Construction Technology I

Unit #: **UNIT 6 OVERVIEW** **Unit Title:** Rough Framing

Unit Description and Objectives:

This unit will introduce the student to the basic fundamentals of framing. The areas of floor, wall, and roof framing will be discussed. Different methods used in the construction industry will be explained and demonstrated during instruction. The relationship between the drawing of a structure and the building of the same structure will be outlined. The meaning of various construction terms such as scale, on-center, rafter, joist, header, and stud will be defined and explained

Essential Questions and Enduring Understandings:

Essential Questions:	**Enduring Understandings/Generalizations** **Students will understand that:**	**Guiding Questions**
1. What is the most common type of framing used today?	1. There are three basic types of construction used in residential construction.	1.1 What are the difference between a joist and a stud? 1.2 How many inches apart are studs centered?
2. What is the importance of correctly framing a wall in regards to load transfer?	2. Wall framing is assembling the vertical and horizontal members that support the outside and inside walls of a structure.	2.1 Name all of the parts of a wall 2.2 What is a load bearing wall? 2.3 What are the benefits of building with trusses? .

CURRICULUM UNIT PLAN

Course Title/Grade: Construction Technology I / 9-12
Unit Number/Title: Unit 6-Rough Framing
Conceptual Lens:
Appropriate Time Allocation (# of Days)**:** 9 Weeks

Primary Content Standards referenced With Cumulative Progress Indicators			
9.3.12.AC-CST.9	9.3.MN-MIR.2-3		
9.3.MN-HSE.1-7	9.3.MN-MIR.5		
9.3.MN.3	9.3.MN-PRO.5		

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJSLS w/ CPI Reference	Evaluation/ Assessment:
A. Floor framing 1. Floor framing basics 2. Joist and girders 3. Subfloors B. Wall Framing 1. Wall framing materials 2. Wall layout 3. Assembling and erecting walls 4. Special framing details C. Roof framing 1. Planning a roof 2. Roof framing with common rafters 3. Ceiling framing 4. Roof trusses 5. Hip, Valley, and jack rafters 6. Ridges 7. Roof assembly	1. The fundamentals of floor framing. 2. The use of plywood to cover floor joists. 3. Laying out and framing wall sections. 4. The use of exterior sheathing to enclose walls. 5. How to use math skills to configure roof angles such as pitch and rake. 6. The use of sheathing to enclose the roof section. 7. The use of mathematics to estimate square footage for enclosures	1. Define numerous construction terms and vocabulary that will be necessary to understand framing. 2. Define the proper procedure for laying out and framing a floor section. 3. Define the proper procedure for lying out and framing a wall section. 4. Define the proper procedure for laying out and framing a roof section. 5. Estimate the approximate square footage for laying sheathing and plywood.	1. Lecture and class discussions. 2. Demonstrations on how to safely frame a wall section 3. Practical labs 4. Selecting appropriate tools for framing.	-Modern Carpentry Textbook *Chapter 2* -Projector -Computer -Handouts -Examples of a framed wall	9.3.12.AC-CST.9 9.3.MN-HSE.1-7 9.3.MN.3 9.3.MN-MIR.2-3 9.3.MN-MIR.5 9.3.MN-PRO.5	8.2.12.C.3 8.2.12.C.4 8.2.12.D.5	**Formative Assessment:** 1. Math worksheets 2. Determine amount and cost of building materials needed to frame the walls of a bedroom 3. Vocabulary worksheets 4. Project-model shed **Summative Assessment(s)** -Benchmark -Midterm EXAM -Final EXAM

Unit Modifications for Special Population Students:

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners	Learners with an IEP	Learners with a 504
• Assist students in getting organized. • Give short directions. • Use drill exercises. • Give prompt cues during student performance. • Let students with poor writing skills use a computer. • Break assignments into small segments and assign only one segment at a time. • Demonstrate skills and have students model them. • Give prompt feedback. • Use continuous assessment to mark students' daily progress. • Prepare materials at varying levels of ability.	• Provide ample opportunities for creative behavior. • Create assignments that call for original work, independent learning, critical thinking, problem solving, and experimentation. • Show appreciation for creative efforts • Respect unusual questions, ideas, and solutions. • Encourage students to test their ideas. • Provide opportunities and give credit for self-initiated learning. • Avoid overly detailed supervision and too much reliance on prescribed curricula. • Allow time for reflection. • Resist immediate and constant evaluation. • Avoid comparisons to other students.	• Use a slow, but natural rate of speech; speak clearly; use shorter sentences; repeat concepts in several ways. • When possible, use pictures, photos, and charts. • Corrections should be limited and appropriate. Do not correct grammar or usage errors in front of the class. • Give honest praise and positive feedback through your voice tones and visual articulation whenever possible. • Encourage students to use language to communicate, allowing them to use their native language to ask/answer questions when they are unable to do so in English. • Integrate students' cultural background into class discussions. • Use cooperative learning where students have opportunities to practice expressing ideas without risking language errors in front of the entire class.	Each special education student has in Individualized Educational Plan (IEP) that details the specific accommodations, modifications, services, and support needed to level the playing field. This will enable that student to access the curriculum to the greatest extent possible in the least restrictive environment. These include: • Variation of time: adapting the time allotted for learning, task completion, or testing • Variation of input: adapting the way instruction is delivered • Variation of output: adapting how a student can respond to instruction • Variation of size: adapting the number of items the student is expected to complete • Modifying the content, process or product Additional resources are outlined to facilitate appropriate behavior and increase student engagement. The most frequently used modifications and accommodations can be viewed here. Teachers are encouraged to use the Understanding by Design Learning Guidelines (UDL). These guidelines offer a set of concrete suggestions that can be applied to any discipline to ensure that all learners can access and participate in learning opportunities. The framework can be viewed here www.udlguidelines.cast.org	• Refer to page four in the Parent and Educator Guide to Section 504 to assist in the development of appropriate plans.

UNIT OVERVIEW

Course Title: Construction Technology I

Unit #: **UNIT 7 OVERVIEW** **Unit Title:** Interior Enclosure Treatments

Unit Description and Objectives:

This unit deals with the basic elements of interior enclosure treatments. It covers the various types of gypsum drywall, their uses, and the fastening devices and methods used to install them. Tools, materials and methods used to finish and patch drywall will also be discussed. Students will also learn the different types of windows and doors used in construction as well trim applications.

Essential Questions and Enduring Understandings:

Essential Questions:	**Enduring Understandings/Generalizations** **Students will understand that:**	**Guiding Questions**
1. Explain why drywall is used as a wall and ceiling covering	1. Dry wall consists of a gypsum core and is used as an interior finishing.	1.1 How deep should drywall screws be set? 1.2 Name and describe two methods of installing drywall?
2. Compare a pocket door and a bypass door.	2. Windows and exterior doors will protect the finishing materials from weather damage.	2.1 What is a reveal? 2.2 What is a door that consists of two doors hinged together?

CURRICULUM UNIT PLAN

Course Title/Grade: Construction Technology I / 9-12
Unit Number/Title: Unit 7-Interior Enclosure Treatments
Conceptual Lens:
Appropriate Time Allocation (# of Days)**:** 8 Weeks

Primary Content Standards referenced With Cumulative Progress Indicators			
9.3.12.AC-CST.9	9.3.MN-MIR.2-3		
9.3.MN-HSE.1-7	9.3.MN-MIR.5		
9.3.MN.3	9.3.MN-PRO.5		

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJSLS w/ CPI Reference	Evaluation/ Assessment:
A. Drywall Installation 1. Types of Drywall 2. Fasteners 3. Drywall Finishing 4. Drywall Tools 5. Estimating Materials 6. Problem Solving B. Doors and Hardware 1. Interior/Exterior Types 2. Door Jambs 3. Hardware C. Windows 1. New Construction 2. Replacement 3. Double Hung 4. Casement D. Finish Carpentry 1. Types of Molding 2. Estimating Materials 3. Installing Trim	1. The different types and thickness of drywall required for specific installations 2. How soundproofing is achieved in drywall installations 3. The hand tools used in drywall finishing 4. The automatic tools used in drywall finishing 5. The different types of interior doors 6. The different types of exterior doors 7. The different types of standard molding and their uses. 8. How to choose the correct fastener. 9. How to estimate the amount of trim and cost of a job.	1. Select the correct fasteners for a drywall installation 2. Install drywall on wood studs 3. Install drywall on steel studs 4. Measure and cut drywall 5. Cut around outlets and light switches 6. Tape and spackle flat seams 7. Tape and spackle inside and outside corners 8. Patch damaged drywall 9. Demonstrate the procedure for placing and hanging a selected door 10. Install a door hardware set 11. Make a square and miter cut using a miter box or miter saw 12. Attach trim around a window or door 13. Install baseboard trim	*Sheetrock* 1. Lecture and class discussions. 2. Demonstrations on how to safely measure, cut and install sheetrock. 3. Demonstration on how to spackle and sand sheet rock 4. Demonstration on how to repair sheet rock. 5. Practical labs 6. Selecting appropriate tools for installing sheetrock *Doors* 1. Demonstration on how to install a prehung door. 2. Installing a hardware set. *Windows* 1. How to measure and install a new construction and vinyl replacement window. 2. How to repair windows 3. Installing trim	-Modern Carpentry Textbook *Chapter 18* -Projector -Computer -Handouts *Examples* -Framed wall with sheetrock attached -Prehung door -Windows; vinyl and new construction -Hardware set Various types of molding	9.3.12.AC-CST.9 9.3.MN-HSE.1-7 9.3.MN.3 9.3.MN-MIR.2-3 9.3.MN-MIR.5 9.3.MN-PRO.5	8.2.12.C.3 8.2.12.C.4 8.2.12.D.5	**Formative Assessments:** **(Specify evaluation methods and criteria with frequency. *Include Benchmark Assessments*)** **Summative Assessment(s)**

Unit Modifications for Special Population Students:

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners	Learners with an IEP	Learners with a 504
• Assist students in getting organized. • Give short directions. • Use drill exercises. • Give prompt cues during student performance. • Let students with poor writing skills use a computer. • Break assignments into small segments and assign only one segment at a time. • Demonstrate skills and have students model them. • Give prompt feedback. • Use continuous assessment to mark students' daily progress. • Prepare materials at varying levels of ability.	• Provide ample opportunities for creative behavior. • Create assignments that call for original work, independent learning, critical thinking, problem solving, and experimentation. • Show appreciation for creative efforts • Respect unusual questions, ideas, and solutions. • Encourage students to test their ideas. • Provide opportunities and give credit for self-initiated learning. • Avoid overly detailed supervision and too much reliance on prescribed curricula. • Allow time for reflection. • Resist immediate and constant evaluation. • Avoid comparisons to other students.	• Use a slow, but natural rate of speech; speak clearly; use shorter sentences; repeat concepts in several ways. • When possible, use pictures, photos, and charts. • Corrections should be limited and appropriate. Do not correct grammar or usage errors in front of the class. • Give honest praise and positive feedback through your voice tones and visual articulation whenever possible. • Encourage students to use language to communicate, allowing them to use their native language to ask/answer questions when they are unable to do so in English. • Integrate students' cultural background into class discussions. • Use cooperative learning where students have opportunities to practice expressing ideas without risking language errors in front of the entire class.	Each special education student has in Individualized Educational Plan (IEP) that details the specific accommodations, modifications, services, and support needed to level the playing field. This will enable that student to access the curriculum to the greatest extent possible in the least restrictive environment. These include: • Variation of time: adapting the time allotted for learning, task completion, or testing • Variation of input: adapting the way instruction is delivered • Variation of output: adapting how a student can respond to instruction • Variation of size: adapting the number of items the student is expected to complete • Modifying the content, process or product Additional resources are outlined to facilitate appropriate behavior and increase student engagement. The most frequently used modifications and accommodations can be viewed here. Teachers are encouraged to use the Understanding by Design Learning Guidelines (UDL). These guidelines offer a set of concrete suggestions that can be applied to any discipline to ensure that all learners can access and participate in learning opportunities. The framework can be viewed here www.udlguidelines.cast.org	• Refer to page four in the Parent and Educator Guide to Section 504 to assist in the development of appropriate plans.

UNIT OVERVIEW

Course Title: Construction Technology I

Unit #: **UNIT 8** **Unit Title:** Careers

Unit Description and Objectives:

Career opportunities in the woodworking and manufacturing field are widespread. They range from entry-level positions to professional opportunities, as well as entrepreneurial possibilities. Students will examine their interests, aptitudes and abilities, and will investigate careers within this cluster.

Essential Questions and Enduring Understandings:

Essential Questions:	Enduring Understandings/Generalizations Students will understand that:	Guiding Questions
1. What factors influence career decisions?	1. The past, present, and future technological advances as they relate to a chosen career pathway.	1.1 What are several career choices for a person interested in the woodworking and manufacturing industry? 1.2 Name a few career choices in the construction industry
2. What personal qualities are essential for professional careers?	2. It is important to make effective decisions, use career information, and manage personal career plans.	2.1 What are some resources for career investigation? 2.2 Name a few local trade schools

CURRICULUM UNIT PLAN

Course Title/Grade: Construction Technology I / 9-12
Unit Number/Title: Unit 8-Careers
Conceptual Lens:
Appropriate Time Allocation (# of Days): 2 weeks

Primary Content Standards referenced With Cumulative Progress Indicators
9.1.Gr12.A1-5
9.1.Gr12.B15
9.2.Gr12.D1-5

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJSLS w/ CPI Reference	Evaluation/ Assessment:
A. Identifying a career choice 1. Occupational Outlook Handbook 2. School experience 3. Public library 4. Clubs or summer job 5. Vocational tests 6. Employment forms 7. Develop job contacts B. Choosing a career 1. Do I have the ability? 2. Do I have the interest? C. Types of careers 1. Construction trades a. Framers b. Finishers c. Electricians d. Plumbers e. HVAC f. Other 2. Manufacturing trades a.Cabinet makers b. Machinists c.Plastic injection molders	1. The assistance the Occupational Outlook Handbook can give in pursuing employment. 2. The explanation of "entry-level" employment. 3. The benefits of work for and with a union. 4. The explanation of an apprenticeship program and how it prepares one for the job. 5. The requirements needed to attain management positions.	1. Explain the various levels of employment. 2. Explain the variations in "union" and "non-union" job market. 3. Understand how to use the Occupational Outlook Handbook to assist them in obtaining employment. 4. Understand how an apprenticeship program benefits or hinders their chances for employment. 5. Explain the principle of "upper" management in business. 6. Discuss the give and take between salary and benefits and the effect on a paycheck.	1. Lecture and class discussion 2 Guest speaker 3. In class exercises 4. Various video clips of professionals 5. Assigned homework-students will do a current event on one type of construction career of their choice.	-Modern Carpentry Textbook *Chapters 1* -Projector -Computer -Handouts and brochures of each type of career in construction	9.1.Gr12.A1-5 9.1.Gr12.B15 9.2.Gr12.D1-5	8.1.8.A1-12 8.1.8.B1-10	**Formative Assessments:** 1. Class Participation 2. Class work 3. Worksheet 4. Quizzes 5. Current event **Summative Assessment(s)** -Benchmark -Final Exam

Topics/Concepts **(Incl. time / # days per topic)**	**Critical Content** **(Students Will Know:)**	**Skill Objectives** **(Students Will Be Able To:)**	**Instructional/Learning Activities & Interdisciplinary Connections**	**Instructional Resources**	**Technology & 21st C Skills Integration (Specify)**	**NJSLS w/ CPI Reference**	**Evaluation/ Assessment:**
3. Engineering a. Industrial b. Mechanical c. Electrical d. Marine e. Civil 4. Environmental a. Forestry b.EPA D. Career levels 1. Craftspeople 2. Technicians 3. Professionals.	6. The advantages of benefits and salary.						

Unit Modifications for Special Population Students:

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners	Learners with an IEP	Learners with a 504
• Assist students in getting organized. • Give short directions. • Use drill exercises. • Give prompt cues during student performance. • Let students with poor writing skills use a computer. • Break assignments into small segments and assign only one segment at a time. • Demonstrate skills and have students model them. • Give prompt feedback. • Use continuous assessment to mark students' daily progress. • Prepare materials at varying levels of ability.	• Provide ample opportunities for creative behavior. • Create assignments that call for original work, independent learning, critical thinking, problem solving, and experimentation. • Show appreciation for creative efforts • Respect unusual questions, ideas, and solutions. • Encourage students to test their ideas. • Provide opportunities and give credit for self-initiated learning. • Avoid overly detailed supervision and too much reliance on prescribed curricula. • Allow time for reflection. • Resist immediate and constant evaluation. • Avoid comparisons to other students.	• Use a slow, but natural rate of speech; speak clearly; use shorter sentences; repeat concepts in several ways. • When possible, use pictures, photos, and charts. • Corrections should be limited and appropriate. Do not correct grammar or usage errors in front of the class. • Give honest praise and positive feedback through your voice tones and visual articulation whenever possible. • Encourage students to use language to communicate, allowing them to use their native language to ask/answer questions when they are unable to do so in English. • Integrate students' cultural background into class discussions. • Use cooperative learning where students have opportunities to practice expressing ideas without risking language errors in front of the entire class.	Each special education student has in Individualized Educational Plan (IEP) that details the specific accommodations, modifications, services, and support needed to level the playing field. This will enable that student to access the curriculum to the greatest extent possible in the least restrictive environment. These include: • Variation of time: adapting the time allotted for learning, task completion, or testing • Variation of input: adapting the way instruction is delivered • Variation of output: adapting how a student can respond to instruction • Variation of size: adapting the number of items the student is expected to complete • Modifying the content, process or product Additional resources are outlined to facilitate appropriate behavior and increase student engagement. The most frequently used modifications and accommodations can be viewed here. Teachers are encouraged to use the	• Refer to page four in the Parent and Educator Guide to Section 504 to assist in the development of appropriate plans.

			Understanding by Design Learning Guidelines (UDL). These guidelines offer a set of concrete suggestions that can be applied to any discipline to ensure that all learners can access and participate in learning opportunities. The framework can be viewed here www.udlguidelines.cast.org	

CROSS-CONTENT STANDARDS ANALYSIS

Course Title: Construction Technology I **Grade:** 9-12

Unit Title:	Visual and Performing Arts	Comp. Health & Physical Ed.	Language Arts Literacy	Mathematics	Science	Social Studies	World Languages	Tech. Literacy	Career Education/ Consumer, Family & Life Skills
Introduction to Course and Room Procedures			NJSLS: Gr.11-12, RST 1, RST 3, RST 4, RST 8, RST 10 NJSLS: Gr.11-12, WHST 1.a, WHST 1.c, WHST 6, WHST 10	N-Q,1-3				8.1, A.1,3, 6,8 B.2,5, 6,11 8.2, A.2,3 B.1,3, 4,6 C.2,3	9.1, A.1-5 B.1,2, 4,5 9.2, F.1-5 9.3.12.0.(1).7 9.3.12.0.(1).9 9.3.12.0.(1).12 9.3.12.0.(2).4 9.3.12.0.(2).5 9.3.12.0.(2).6 9.3.12.0.38 9.3.12.0.40 9.3.12.0.44 9.3.12.0.55 9.3.12.0.57 9.3.12.0.60
Shop and Occupational Safety Skills			NJSLS: Gr.11-12, RST 1, RST 3, RST 4, RST 8, RST 10 NJSLS: Gr.11-12, WHST 1.a, WHST 1.c, WHST 6, WHST 10	N-Q,1-3				8.1, A.1,3, 6,8 B.2,5, 6,11 8.2, A.2,3 B.1,3, 4,6 C.2,3	9.1, A.1-5 B.1,2, 4,5 9.2, F.1-5 9.3.12.0.17 9.3.12.0.18 9.3.12.0.19 9.3.12.0.20 9.3.12.0.21
Basic Blueprint Reading and Drawing Skills			NJSLS: Gr.11-12, RST 1, RST 3, RST 4, RST 8, RST 10 NJSLS: Gr.11-12, WHST 1.a, WHST 1.c, WHST 6, WHST 10	N-Q,1-3				8.1, A.1,3, 6,8 B.2,5, 6,11 8.2, A.2,3 B.1,3, 4,6 C.2,3	9.1, A.1-5 B.1,2, 4,5 9.2, F.1-5

Construction Math and Measurement Skills			NJSLS: Gr.11-12, RST 1, RST 3, RST 4, RST 8, RST 10 NJSLS: Gr.11-12, WHST 1.a, WHST 1.c, WHST 6, WHST 10	N-Q,1-3				8.1, A.1,3, 6,8 B.2,5, 6,11 8.2, A.2,3 B.1,3, 4,6 C.2,3	9.1, A.1-5 B.1,2, 4,5 9.2, F.1-5
Hand and Power Tools			NJSLS: Gr.11-12, RST 1, RST 3, RST 4, RST 8, RST 10 NJSLS: Gr.11-12, WHST 1.a, WHST 1.c, WHST 6, WHST 10	N-Q,1-3				8.1, A.1,3, 6,8 B.2,5, 6,11 8.2, A.2,3 B.1,3, 4,6 C.2,3	9.1, A.1-5 B.1,2, 4,5 9.2, F.1-5 9.4.12.0.(1).3
Rough Framing			NJSLS: Gr.11-12, RST 1, RST 3, RST 4, RST 8, RST 10 NJSLS: Gr.11-12, WHST 1.a, WHST 1.c, WHST 6, WHST 10	N-Q,1-3				8.1, A.1,3, 6,8 B.2,5, 6,11 8.2, A.2,3 B.1,3, 4,6 C.2,3	9.1, A.1-5 B.1,2, 4,5 9.2, F.1-5 9.3.12.0.(1).5 9.3 .12.0.(1).6
Interior Enclosure Treatments			NJSLS: Gr.11-12, RST 1, RST 3, RST 4, RST 8, RST 10 NJSLS: Gr.11-12, WHST 1.a, WHST 1.c, WHST 6, WHST 10	N-Q,1-3				8.1, A.1,3, 6,8 B.2,5, 6,11 8.2, A.2,3 B.1,3, 4,6 C.2,3	9.1, A.1-5 B.1,2, 4,5 9.2, F.1-5
Careers			NJSLS: Gr.11-12, RST 1, RST 3, RST 4, RST 8, RST 10 NJSLS: Gr.11-12, WHST 1.a, WHST 1.c, WHST 6, WHST 10	N-Q,1-3				8.1, A.1,3, 6,8 B.2,5, 6,11 8.2, A.2,3 B.1,3, 4,6 C.2,3	9.1, A.1-5 B.1,2, 4,5 9.2, F.1-5

***All content areas may not be applicable in a particular course.**

Washington Township Public Schools
Department of Student Personnel Services

CURRICULUM MODIFICATION

The regular curriculum is modified for Special Education students enrolled in both self-contained and resource center classes.

Each special education student has in Individualized Educational Plan (IEP) that details the specific accommodations, modifications, services, and support needed to level the playing field. This will enable that student to access the curriculum to the greatest extent possible in the least restrictive environment. These include:

- Variation of time: adapting the time allotted for learning, task completion, or testing
- Variation of input: adapting the way instruction is delivered
- Variation of output: adapting how a student can respond to instruction
- Variation of size: adapting the number of items the student is expected to complete
- Modifying the content, process or product

Additional resources are outlined to facilitate appropriate behavior and increase student engagement. The most frequently used modifications and accommodations can be viewed here.

Teachers are encouraged to use the Understanding by Design Learning Guidelines (UDL). These guidelines offer a set of concrete suggestions that can be applied to any discipline to ensure that all learners can access and participate in learning opportunities. The framework can be viewed here www.udlguidelines.cast.org