

Independent School District of Boise City

Technology – Exploring Construction

Course No. 1603

Course Description:

Open to: 8 One Semester Course

Prerequisite: None

Lab Fees: \$8.00

Content: Students will be introduced to the principles of the construction industry and how construction meets the needs of society. Opportunities to perform activities that relate specifically to the construction industry will include problem solving, computer drafting, and building construction. Lab activities may include critical load testing with paper, wood, straws and spaghetti. Construction activities may include towers, bridges, trusses, scale model structures, futuristic homes. Construction careers will be researched and presented.

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DESCRIPTION	TIME	APPENDIX
*Note: It is recommended that the topics and activities be presented in the order they are listed here. As written, this curriculum runs 17 weeks (leaving one week for finals).		
UNIT 1 – DRAWING AND DRAFTING	<i>5 DAYS</i>	
Drafting tools		
ACTIVITY: Drafting tools worksheet	20 min	A
ACTIVITY: Measuring worksheet	20 min	B
Pictorial drawings		
Multiview drawings		
Perspective drawing		
ACTIVITY: Pictorial drawing	1 day	C
ACTIVITY: Multiview drawing	1 day	C
ACTIVITY: Perspective drawings	2 days	D-F
UNIT 2 – TOOLS and SAFETY	1 day	
UNIT 3 – WOOD and WOOD PROJECTS	5 days	G
UNIT 4 – STRUCTURAL DESIGN	<i>1 DAY</i>	
Loads – dead loads, live loads, dynamic loads, wind loads	15 min	
Forces – compression, tension, shear, torsion	15 min	
Structural systems – substructure, structure, superstructure	5 min	
ACTIVITY: Structure worksheet	5 min	H
UNIT 5 – TYPES OF CONSTRUCTION	<i>61 DAYS</i>	
Infrastructure – roads, bridges, sidewalks, tunnels, dams		
ACTIVITY: Examples of Infrastructure Construction	5 min	I
Bridge uses, history, and types	10 min	
ACTIVITY: Bridge Basics worksheet	30 min	J

ACTIVITY: West Point Bridge design computer program	1 day	K
ACTIVITY: Manila folder bridge construction	5 days	L
ACTIVITY: Toothpick truss bridge	5 days	M
ACTIVITY: Balsa wood bridges	5 days	N
Residential – homes, garages, decks, fences		
ACTIVITY: Examples of Residential Construction	10 min	O
ACTIVITY: Popsicle stick fence construction	2 days	P
ACTIVITY: Popsicle stick deck construction	3 days	Q
ACTIVITY: <i>Homes of Our Own</i> computer program	5 days	R
ACTIVITY: Using C.A.D. to digitize your current home	5 days	S
ACTIVITY: Using C.A.D. to design a vacation home	2 days	T
ACTIVITY: Using C.A.D. to design your dream home	3 days	U
ACTIVITY: Building a scale model of your vacation home	5 days	V
Commercial – Buildings/skyscrapers, banks, restaurants, Parking garages, airports, stores, monuments		
ACTIVITY: Examples of Commercial Construction	5 min	W
ACTIVITY: Paper tower	40 min	X
ACTIVITY: Skyscrapers Basics	45 min	Y
ACTIVITY: Great Towers in the Sky video	45 min	Z
ACTIVITY: Simtower computer simulation	5 days	AA
ACTIVITY: Scale model of a famous structure or monument	5 days	BB
UNIT 7 – CREATIVITY AND ARTISTRY IN CONSTRUCTION	15 DAYS	
ACTIVITY: The top 10 most beautiful structures in the world	5 days	CC
ACTIVITY: Rube Goldberg Machine	10 days	DD
Supplies and Vendors		EE
End of Course Exam	90 min	FF

8th Grade Construction		District Reference 1603
Unit 1	Drawing and Drafting	5 days

Instructional Objective		Standard Reference	
1603.01 Students will identify and use drafting tools.		07.01, 07.16, 07.19, 07.20, 07.23	
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Students will be able to explain the difference between an architect's scale, ruler, and yardstick.		EOC
02	Students will be able to name various drafting tools.	See Appendix A	EOC
03	Students will be able to accurately measure a line.	See Appendix B	EOC
Instructional Objective		Standard Reference	
1603.02 Students will understand and demonstrate three types of drawings.		07.04, 07.16, 07.20, 07.23	
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Students will be able to produce a pictorial drawing of an object.	See Appendix C	EOC
02	Students will be able to produce a multiview drawing with three views (top, side, front).	See Appendix C	EOC
03	Students will be able to produce 1, 2, and 3-point perspective drawings.	See Appendices D-F	EOC

8th Grade Construction		District Reference 1603
Unit 2	Tools and Safety	1 day

Instructional Objective		Standard Reference	
1603.03 Students will identify common tools and the safe use of those tools.		07.01, 07.07	
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Students will be able to identify and explain the use of the following: earplugs, ear-protecting headset, safety glasses, safety goggles, face shield, dust mask, respirator, gloves.	<u>Wood</u> textbook	
02	Students will be able to identify and explain or demonstrate the use of the following: center punch, awl, carpenter's square, plumb bob, level, stud finder, claw hammer, ball-peen hammer, rubber mallet, nail set, drill, rotary tool, brad-point drill bit, forstner drill bit, spade drill bit, hole saw,	<u>Wood</u> Textbook	

	depth stop, nut driver, Phillips screwdriver, flathead screwdriver, utility knife, razor-blade scraper, tin snips, needlenose pliers, slip-joint pliers, groove-joint pliers, wire stripper/cutters, adjustable wrench, open-end wrench, allen wrench, wire cutters, c-clamp, spring clamp, trigger clamp, ripsaw, mitre saw, coping saw, crosscut saw, keyhole saw, hacksaw, jigsaw, band saw, reciprocating saw, table saw, circular saw, miter saw, scroll saw, router, lathe, palm sander, detail sander, belt sander.		
03	Students will be able to hammer a nail safely and neatly into a board.		
04	Students will be able to cut a straight line using a jigsaw and ripsaw.		

8th Grade Construction		District Reference 1603
Unit 3	Wood and Wood Projects	1 day

Instructional Objective		Standard Reference	
1603.04 Students will explain how to select lumber for a project		07.07	
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Students will be able to define: finish grade, select grade, softwood, hardwood, veneer, plywood, particleboard, hardboard, waferboard.	<u>Wood</u> Textbook	
Instructional Objective		Standard Reference	
1603.05 Students will define or demonstrate different assembly methods.		07.01, 07.05, 07.07	
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Students will be able to define or demonstrate dowel joints, dado joints, lap joints, miter joints, mortise and tenon joints, dovetail joints, finish grade, select grade, softwood, hardwood, veneer, plywood, particleboard, hardboard, waferboard.	<u>Wood</u> Textbook	
Instructional Objective		Standard Reference	
1603.07 Students will use their knowledge of tools and tool safety to construct a wood project		07.01, 07.03, 07.04, 07.05, 07.07	
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Students will be able to select the wood, tools, and methods necessary to complete a student-selected project.	<u>Wood</u> textbook	See Appendix G

8th Grade Construction		District Reference 1603
Unit 4	Structural Design	1 day

Instructional Objective		Standard Reference	
1603.08 Students will understand loads, forces, and structural systems and be able to apply that knowledge to construction projects.		07.16	
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Students will be able to define dead load, live load, and dynamic load.	PBS Loads Lab at http://www.pbs.org/wgbh/buildingbig/lab/loads.html	EOC
02	Students will be able to explain how load types affect the selection and design of structures.	PBS Loads Lab at http://www.pbs.org/wgbh/buildingbig/lab/loads.html	EOC
03	Students will be able to define and demonstrate compression, tension, shear, and torsion.	PBS Loads Lab at http://www.pbs.org/wgbh/buildingbig/lab/loads.html	EOC
04	Students will be able to demonstrate design principles that withstand the four forces.	PBS Loads Lab at http://www.pbs.org/wgbh/buildingbig/lab/loads.html	EOC
05	Students will be able to label a bridge's substructure, structure, and superstructure.	See Appendix H	EOC

8th Grade Construction		District Reference 1603
Unit 5	Types of Construction	60 days

Instructional Objective		Standard Reference	
1603.09 Students will demonstrate an understanding of the types of infrastructure construction required for residential and commercial development.		07.16	
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Students will be able to list examples of infrastructure construction projects.	See Appendix I	EOC
Instructional Objective		Standard Reference	
1603.10 Students will demonstrate an understanding of bridge history, design, and construction.		07.01, 07.02, 07.04, 07.05, 07.06, 07.07, 07.12, 07.13, 07.14, 07.16, 07.20, 07.21, 07.23	
No.	Performance Objective	Resource Reference	Assessment

			Correlation
01	Students will be able to demonstrate an understanding of the history, uses, and types of bridges.	Bridge Basics Worksheet: http://www.boiseschools.org/schools/lesbois/teachers/johns/Bridges.ppt See Appendix J	EOC
02	Students will be able to use the West Point Bridge Designer software.	http://bridgecontest.usma.edu/tutorial.htm	
03	Students will be able to use the West Point Bridge Designer software to solve a design challenge.	http://bridgecontest.usma.edu/index.htm Appendix K	
04	Students will be able to construct a truss bridge from manila folders able to withstand a given weight.	http://bridgecontest.usma.edu/manual.htm See Appendix L	
05	Students will be able to design and build a truss bridge of their choice using toothpicks.	See Appendix M	
06	Students will be able to test their toothpick design by applying a load to it.	See Appendix M	
07	Students will be able to build a truss bridge using balsa wood and glue.	See Appendix M	
08	Students will be able to test their balsa wood bridges by applying a load to it.	See Appendix M	
09	Students will be able to explain the advantages of using trusses in bridge designs.		EOC
10	Students will be able to explain or demonstrate how compression, tension, shear, and torsion affect a bridge.		EOC
Instructional Objective 1603.11 Students will demonstrate an understanding of residential construction.		Standard Reference 07.05, 07.06, 07.07, 07.12, 07.13, 07.16, 07.20, 07.21, 07.23	
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Students will be able to name examples of residential construction in their community.	See Appendix N	EOC
02	Students will be able to construct a fence using Popsicle sticks.	See Appendix O	
03	Students will be able to construct a deck using Popsicle sticks.	See Appendix P	

Instructional Objective 1603.12 Students will demonstrate good decision-making in virtual residential construction projects.		Standard Reference 07.03, 07.04, 07.05, 07.06, 07.07, 07.13, 07.14, 07.16, 07.18, 07.20, 07.21, 07.23	
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Students will be able to use the Homes of Our Own program to choose a footprint, design a house, place the house on the lot, add exterior features, apply for a building permit, prepare the site, keep a budget, advertise the home, review offers, check the credit of potential buyers, select a buyer, and sell the home.	http://www.homesofourown.org/	
02	Students will be able to earn at least a 70% rating on each home they sell.	See Appendix Q	
Instructional Objective 1603.13 Students will use computer aided drafting in residential home design.		Standard Reference 07.05, 07.14, 07.20, 07.23	
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Students will be able to use a C.A.D. program to accurately re-create the floor plans for the home they currently live in.	See Appendix R	
02	Students will be able to use a C.A.D. program to design a vacation home with specific requirements.	See Appendix S	
03	Students will be able to use their floor plan to build a scale model of their vacation home.	See Appendix T	
Instructional Objective 1603.14 Students will demonstrate an understanding of commercial construction.		Standard Reference 07.05, 07.06, 07.07, 07.12, 07.13, 07.16, 07.20, 07.21, 07.23	
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Students will be able to name examples of commercial construction projects around their town.	See Appendix U	EOC
02	Students will be able to build a tower from one poster board and 10' of tape.	This is a competition to see who can build the tallest tower.	
03	Students will demonstrate knowledge of skyscraper construction and history.	See Appendix V	EOC
04	Students will be able to answer questions from a video called "Great Towers in the Sky".	See Appendix W	EOC
05	Students will be able to build and manage a	See Appendix X	

	skyscraper using a simulation program called “Simtower”.		
06	Students will be able to use the Internet to research the construction and measurements of a famous monument or structure.		
07	Students will be able to build a 1:500 scale model of a famous monument or structure.	See Appendix Y	
08	Students will be able to reduce the width, depth, and height of a structure or monument by 500.		

8th Grade Construction		District Reference 1603
Unit No. 4	Creativity and Artistry in Construction	15 days

Instructional Objective		Standard Reference	
1603.15 Students will gain an appreciation for the beauty of design in architecture.		07.03, 07.14, 07.17	
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Students will be able to use various sources, including books and the Internet, to select ten structures from around the world they consider the most beautiful.		
02	Students will be able to explain and justify their selection of the ten most beautiful structures in the world.		
03	Students will be able to use presentation software to display their choice of the ten most beautiful structures in the world.	See Appendix Z	
04	Students will be able to explain what a Rube Goldberg machine is.		EOC
05	Students will be able to construct a complicated machine capable of performing a simple everyday task.	See Appendix AA	

07.0 CONSTRUCTION SYSTEMS I

Prerequisite: Fundamentals of Technology

Construction Systems I is designed to introduce classical and contemporary elements, principles and processes of structural systems. Architectural and engineering subjects are studied through research, design, project development and assessment. Students explore the relationship of materials, form, function, and culture of notable past and present structures through practical applications and modeling techniques.

PROGRAM TASK LISTING EFFECTIVE DATE: June 30, 1995

PROGRAM AREA: Technology Education

PROGRAM TITLE: Construction Systems I

IDAHO CODE NUMBER: TE 1920

- 07.01 Demonstrate proper and safe procedures while working with technological tools, apparatus, equipment, systems, and materials.
- 07.02 Demonstrate interpersonal skills as they relate to the workplace.
- 07.03 Identify and apply methods of information acquisition and utilization.
- 07.04 Apply basic skills in communications, mathematics, and science appropriate to technological content and learning activities.
- 07.05 Demonstrate and apply design/problem-solving processes.
- 07.06 Express an understanding of technological systems and their complex interrelationships.
- 07.07 Demonstrate the ability to properly identify, organize, plan, and allocate resources.
- 07.08 Discuss individual interests and aptitudes as they relate to a career.
- 07.09 Demonstrate employability skills and habits.
- 07.10 Demonstrate an understanding of entrepreneurship.
- 07.11 Make an informed and meaningful career choice.
- 07.12 Demonstrate technological literacy about construction systems.
- 07.13 Exhibit positive human relations and leadership skills.

- 07.14 Demonstrate computer application and literacy.
- 07.15 Demonstrate and apply design/problem-solving processes.
- 07.16 Demonstrate technological literacy.
- 07.17 Display an understanding and appreciation for the dignity and worth of honest labor.
- 07.18 Discuss individual interests and aptitudes as they relate to a career.
- 07.19 Demonstrate evolving construction technologies.
- 07.20 Perform special skills unique to construction technology.
- 07.21 Express knowledge of factors that impact on construction technology and practices.
- 07.22 List requisites and career opportunities for employment in construction technology.
- 07.23 Demonstrate work common to residential, commercial and civil construction technology.

PROGRAM TASK LISTING EFFECTIVE DATE: June 30, 1995

PROGRAM AREA: Technology Education

PROGRAM TITLE: Construction Systems I

IDAHO CODE NUMBER: TE 1920

07.01 DEMONSTRATE PROPER AND SAFE PROCEDURES WHILE WORKING WITH TECHNOLOGICAL TOOLS, APPARATUS, EQUIPMENT, SYSTEMS, AND MATERIALS --

The student will be able to:

1. Follow laboratory safety rules and procedures.
2. Demonstrate good housekeeping at work station within total laboratory.
3. Conduct laboratory activities and equipment operations in a safe manner.
4. Exercise care and respect for all tools, equipment, and materials.
5. Identify color-coding safety standards.
6. Safely use hand tools and power equipment.
7. Explain fire prevention and safety precautions and practices for extinguishing fires.

8. Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment.

07.02 DEMONSTRATE INTERPERSONAL SKILLS AS THEY RELATE TO THE WORKPLACE--

The student will be able to:

1. Perform roles in a student personnel system or in the Idaho Technology Student Association (ID-TSA).
2. Participate as a member of a team.
3. Teach others new skills.
4. Identify skills needed to serve clients/customers.
5. Demonstrate leadership skills.
6. Describe strategies necessary for negotiating agreements.
7. Demonstrate the application of skills necessary to work with people of diverse backgrounds.
8. Form an understanding and appreciation for work after listening to or observing technology workers.
9. Form an understanding and appreciation for work after participating in a simulated technology group project in the laboratory.
10. Form an understanding and appreciation for the roles and work of co-workers.

07.03 IDENTIFY AND APPLY METHODS OF INFORMATION ACQUISITION AND UTILIZATION-

The student will be able to:

1. Define terms related to computers.
2. Identify and describe methods of information acquisition and evaluation.
3. Discuss advantages and disadvantages in the application of technologies.
4. Produce a plan to organize and maintain information relevant to emerging technologies.
5. Comprehend and communicate information relevant to emerging technologies.
6. Demonstrate the use of computers to process information.

07.04 APPLY BASIC SKILLS IN COMMUNICATIONS, MATHEMATICS, AND SCIENCE APPROPRIATE TO TECHNOLOGICAL CONTENT AND LEARNING ACTIVITIES--

The student will be able to:

1. Identify and explain the main and subordinate ideas in a written work.
2. Distinguish different purposes and methods of writing, identify a writer's point of view and tone, and interpret a writer's meaning.
3. Define unfamiliar words by use of structural analysis, decoding, contextual clues, or by using a dictionary.

4. Distinguish fact from opinion.
5. Read critically by asking pertinent questions, by recognizing assumptions and implications, and by evaluating ideas.
6. Select, relate, and organize, ideas using outlining and/or graphic organizers, and develop the ideas in coherent paragraphs.
7. Improve one's own writing by restructuring, correcting errors, and rewriting.
8. Gather and organize information from primary and secondary sources; write a report using this research; quote, paraphrase, and summarize accurately; and cite sources properly.
9. Vary one's writing style, including vocabulary and sentence structure, for different readers and purposes.
10. Write logical and understandable statements, or phrases, to accurately fill out commonly used forms.
11. Compose unified and coherent correspondence, directions, descriptions, explanations and reports.
12. Participate critically and constructively in the exchange of ideas, particularly during class discussions and conferences with instructors.
13. Conceive and develop ideas about a topic for the purpose of speaking to a group; choose and organize related ideas; present them clearly in Standard English; and evaluate similar presentations by others.
14. Use the mathematics of:
 - integers, fractions, and decimals;
 - ratios, proportions, and percentages;
 - roots and powers;
 - algebra;
 - geometry.
15. Make estimates and approximations, and judge the reasonableness of a result.
16. Use elementary concepts of probability and statistics.
17. Draw, read, and analyze graphs, charts, and tables.
18. Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solutions of such questions through familiarity with laboratory and field work.
19. Organize and communicate the results obtained by observation and experimentation.
20. Apply the basic principles of biology, physics, and chemistry (properties of matter; structure of compounds; concepts of motion; temperature, pressure and volume; work, power, force and energy; machines; human cell structure).
21. Identify problems rooted in basic biology, physics, or chemistry (effects of hazardous materials on health and safety, effects of drugs on health, trouble shooting problems on a machine).

07.05 DEMONSTRATE AND APPLY DESIGN/PROBLEM-SOLVING PROCESSES--

The student will be able to:

1. Describe and explain steps in the design/problem-solving process.
2. Propose solutions to given problems.
3. Design and implement the optimal solution to a given problem.
4. Document each step of the design/problem-solving process.
5. Demonstrate "Brainstorming" as a process to solve problems.
6. Define "critical thinking" and its value in the problem-solving process.

07.06 EXPRESS AN UNDERSTANDING OF TECHNOLOGICAL SYSTEMS AND THEIR COMPLEX INTERRELATIONSHIPS--

The student will be able to:

1. Demonstrate knowledge of how social, organizational, and technological systems work.
2. Explore methods used to monitor and correct performance of technological systems.
3. Design and implement an optimal solution to a given problem.
4. Outline major historical technological developments or events.
5. Identify recent advances in technology.
6. Explain problem-solving roles of technology.
7. Forecast a technological development or event.
8. Define technology.

07.07 DEMONSTRATE THE ABILITY TO PROPERLY IDENTIFY, ORGANIZE, PLAN, AND ALLOCATE RESOURCES--

The student will be able to:

1. Demonstrate the ability to select goal-relevant activities, rank them, allocate time, and prepare and follow schedules.
2. Use or prepare budgets, make forecasts, keep records, and make adjustments to meet objectives.
3. Demonstrate the ability to acquire, store, allocate, and use materials or space efficiently.
4. Display knowledge of the efficient use of human resources.

07.08 DISCUSS INDIVIDUAL INTERESTS AND APTITUDES AS THEY RELATE TO A CAREER--

The student will be able to:

1. Describe individual strengths and weaknesses.
2. Discuss individual interests related to a career.
3. Identify careers within specific areas of technology.
4. Explore careers within specific areas of interest.

07.09 DEMONSTRATE EMPLOYABILITY SKILLS AND HABITS--

The student will be able to:

1. Identify employment opportunities.
2. Apply employment seeking skills.
3. Interpret employment capabilities.
4. Demonstrate appropriate work behavior.
5. Maintain safe and healthy environment.
6. Maintain businesslike image.
7. Maintain working relationships with others.
8. Communicate on the job.
9. Adapt to change.
10. Demonstrate knowledge of manufacturing.
11. Perform mathematical calculations.
12. Compile a portfolio.

07.10 DEMONSTRATE AN UNDERSTANDING OF ENTREPRENEURSHIP--

The student will be able to:

1. Define entrepreneurship.
2. Describe the importance of entrepreneurship to the American economy.
3. List the advantages and disadvantages of business ownership.
4. Identify the risks involved in ownership of a business.
5. Identify the necessary personal characteristics of a successful entrepreneur.
6. Identify the business skills needed to operate a small business efficiently and effectively.

07.11 MAKE AN INFORMED AND MEANINGFUL CAREER CHOICE--

The student will be able to:

1. Make a tentative occupational choice based on the information learned and interest developed in this course.
2. Review tentative occupational choices based on the information learned and interest developed in this course.

07.12 DEMONSTRATE TECHNOLOGICAL LITERACY ABOUT CONSTRUCTION SYSTEMS--

The student will be able to:

1. Define construction technology.
2. Outline major technological developments and events in the history of construction systems technology.
3. Identify recent advances in construction technology.
4. Forecast a development or event in construction technology.

07.13 EXHIBIT POSITIVE HUMAN RELATIONS AND LEADERSHIP SKILLS--

The student will be able to:

1. Perform roles in a student personnel system or in the Idaho Technology Student Association (ID-TSA).
2. Work cooperatively with others.

07.14 DEMONSTRATE COMPUTER APPLICATION AND LITERACY--

The student will be able to:

1. Define terms related to computer parts and usage.
2. List ways in which computers are used in technology.
3. Discuss advantages and disadvantages in the use of computers.
4. Demonstrate the application of a computer.

07.15 DEMONSTRATE AND APPLY DESIGN/PROBLEM-SOLVING PROCESSES--

The student will be able to:

1. Describe and explain steps in the design/problem-solving process.
2. Propose solutions to given problems.
3. Design and implement the optimal solution to a given problem.

07.16 DEMONSTRATE TECHNOLOGICAL LITERACY--

The student will be able to:

1. Outline major historical technological developments or events.
2. Identify recent advances in technology.
3. Explain problem-solving roles of technology.
4. Forecast a technological decision.
5. Make a technological decision.
6. Define technology.

07.17 DISPLAY AN UNDERSTANDING AND APPRECIATION FOR THE DIGNITY AND WORTH OF HONEST LABOR--

The student will be able to:

1. Form an understanding and appreciation for work after listening to or observing technology workers.
2. Form an understanding and appreciation for work after participating in a simulated technology group project in the laboratory.
3. Form an understanding and appreciation for the roles and work of co-workers.

07.18 DISCUSS INDIVIDUAL INTERESTS AND APTITUDES AS THEY RELATE TO A CAREER--

The student will be able to:

1. Describe individual strengths and weaknesses.
2. Discuss individual interests related to a career.
3. Identify careers within specific areas of technology.
4. Explore careers within specific areas of interest.

07.19 DEMONSTRATE EVOLVING CONSTRUCTION TECHNOLOGIES--

The student will be able to:

1. List evolving technologies in construction.
2. Demonstrate evolving technology in construction, i.e. 1) modular, 2) geodesic dome, 3) manufactured, 4) non-combustible.

07.20 PERFORM SPECIAL SKILLS UNIQUE TO CONSTRUCTION TECHNOLOGY--

The student will be able to:

1. Interpret construction plans and blueprints.
2. Identify construction materials.
3. Apply carpentry skills.
4. Apply plumbing skills.
5. Apply electrical wiring skills.
6. Apply masonry skills.
7. Describe or demonstrate the construction skills of plastering, roofing, and finishing.

07.21 EXPRESS A KNOWLEDGE OF FACTORS THAT IMPACT ON CONSTRUCTION TECHNOLOGY AND PRACTICES--

The student will be able to:

1. Explain economic factors that impact on construction technology.
2. Research and identify types and styles of construction desired by consumers.

3. List sources of raw materials and standard stock materials available to construction technology.
4. Express knowledge of construction technology labor organizations and hiring practices.

07.22 LIST REQUISITES AND CAREER OPPORTUNITIES FOR EMPLOYMENT IN CONSTRUCTION TECHNOLOGY--

The student will be able to:

1. List occupations, job requirements, and employment opportunities in construction technology.
2. List occupational training programs and academic programs and academic programs at the postsecondary levels in construction technologies.

07.23 DEMONSTRATE WORK COMMON TO RESIDENTIAL, COMMERCIAL AND CIVIL CONSTRUCTION TECHNOLOGY--

The student will be able to:

1. Identify kinds of work related to construction technologies.
2. Demonstrate semi-skilled, skilled, and professional levels of work in construction technology.