

Jefferson School District

Technology Education and Skilled Trades

Overarching Goal of the Curricular Area: Through technical skills and employability development, students are able to apply and relate academic knowledge to succeed.

Grade(s) 10-12 Construction

prerequisites - Intro to tech ed, woods 1, Home maintenance

Unit Theme	Lab Safety and OSHA Regulations	Measurement and plans	Concrete and Foundations	Framing and Roof system	Mechanical, Electrical and plumbing (MEP)	Exterior Finishes	Interior Finishes
Unit Goal	Students will apply safety techniques to construction activities.	Students will be able to apply proper measurement and design practice.	Students apply their knowledge of how to prepare a site and properly construct building foundations.	Students will understand proper floor and wall framing as well as proper roof structures for building designs.	Students will be able to gain a basic understanding of electrical, HVAC, and plumbing systems with the construction industry.	Students will apply proper techniques for installing windows, exterior doors, roofing and siding.	Students will apply the principles of cabinet, trim, door, insulation, cabinet, drywall and flooring installations.
Enduring Understandings	Students will understand the importance of safety procedures and practices	Students will understand the importance of paper measuring techniques and practices Students will be able to read and comprehend construction plans	Students will understand the necessary steps in preparing a site and the different uses of building materials	Students will understand the importance of structural framing and roofing systems.	Students will understand the principles of basic electrical, plumbing and HVAC systems and how they affect the construction system as a whole. Students will be able to understand how	Students will understand the techniques used to install windows and doors, roofs, solar panels and siding	Students will understand and apply the proper applications for various types of cabinets, drywall, trim, and flooring

					mechanical systems are used to create comfortable environments within a construction project.		
Essential Questions	How will I use the safety procedures to create a safe working environment for myself and others? How do I select the proper tools and equipment for the job to prevent injury?	How will I Use properly measuring techniques to insure a properly built construction project How will I draw and interpret a set of construction plans related to a final project?	How will I choose the proper building materials for the site? How will I ensure that the foundation of a construction system meets the needs of the entire system?	How will I properly lay out the various parts of a stud wall based off a specific plan How will I ensure the proper construction of the roof system for a given construction project?	How will I choose the correct (and apply) the various types of plumbing tools , materials and practices. How will I choose the correct (and apply) the various types of electrical tools , materials and practices How will I choose the correct (and apply) the various types of HVAC tools , materials and practices	What installation techniques will I use to install windows, siding, roofing and doors so they function properly? How will I ensure that I use the correct tools and practices to complete various exterior finishes on a construction project.	How does the area to be finished determine the material used? How will I set and lay out cabinets for the space? How will I prepare and finish the floor and trim out appropriately?
Standards	AC1.d.5.h: Demonstrate the use of portable power tools, such as circular saws, table saws, saber saws, drills, planers and sanders, safely and properly. AC1.f.6.h: Demonstrate the safety	AC1.e.12.h: Interpret and use residential construction blueprints and specifications. AC1.e.14.h: Explain the sequencing of events for specific construction projects AC1.a.10.h: Analyze how structures are constructed using a	AC1.c.15.h: Use conventional construction formulas to determine production requirements. AC1.a.6.m: Explain the function of foundations and why structures rest on a foundation.	AC1.b.11.h - Identify design solutions for residential construction problems AC.1.g.12.h - Analyze the phases of residential construction	AC1g.10.h: Demonstrate proficiency in the practical application of the processes and materials (e.g., structural, electrical, mechanical, finish) appropriate to architectural design and construction. PE1.b.11.h: Demonstrate and	AC1.a.8.m: Identify a variety of materials and subsystems that buildings generally contain. AC1.b.11.h - Identify design solutions for residential construction problems AC.1.g.12.h - Analyze the phases of	AC1.a.8.m: Identify a variety of materials and subsystems that buildings generally contain. AC1.b.11.h - Identify design solutions for residential construction problems

	procedures and practices in various work environment settings pertaining to residential and commercial construction.	variety of processes and procedures. AC1.b.12.h: Calculate required materials for residential construction applications. AC.1.g.12.h - Analyze the phases of residential construction AC1.a.11.h: The design of structures includes a number of requirements.	AC1.b.11.h - Identify design solutions for residential construction problems AC.1.g.12.h - Analyze the phases of residential construction	AC1.a.11.h: The design of structures includes a number of requirements. AC1.d.5.h ; Demonstrate the use of portable power tools such as circular saws, saber saws, table saws, drills, planers and sanders safely and properly.	follow proper safety procedures for tools and machines used in power and energy systems. AC1.b.11.h - Identify design solutions for residential construction problems AC.1.g.12.h - Analyze the phases of residential construction	residential construction AC1.d.5.h ; Demonstrate the use of portable power tools such as circular saws, saber saws, table saws, drills, planers and sanders safely and properly. PE1.a.14.h; Identify trends in energy impacting the world's renewable and nonrenewable energy systems. PE1.b.11.h; demonstrate and follow proper safety procedures for tools and machines	BB1.b.6.h - Choose and perform the materials processing operations of fastening and finishing AC.1.g.12.h - Analyze the phases of residential construction AC1.d.5.h ; Demonstrate the use of portable power tools such as circular saws, saber saws, table saws, drills, planers and sanders safely and properly.
Learning Targets	I can identify, select and safely use tools, machines, materials, and designs for specific building projects.	I can use proper measuring techniques in the construction setting I can draw, read and follow a set of plans as it relates to the various areas of a construction project.	I can select and prepare the foundation for a construction project. I can analyze the structural requirement for a construction foundation	I can design and build roofing systems for various structural requirements. I can design and build structural framing systems for residential construction.	I can select and properly use tools and machines associated with HVAC, plumbing and electrical systems.	I can properly install windows, exterior doors, siding, solar panels and roofing to a construction project.	I can determine the proper material and proper practice needed to finish the interior of a construction project
Knowledge and Skills	Students will know how to identify proper behavior and	Students will know how to read a set of construction plans to create a project	Students will know how to identify proper materials for a	Students will know how to identify and build the various parts	Students will know how to develop and troubleshoot various parts of a HVAC,	Students will know how to properly install windows	Students will know the procedure used for installing flooring

	safety procedures that are critical to the worker's safety and well-being Students will understand OSHA safety regulations	Students will know how to draw a set of working plans for a given construction project.	building foundation Students will know how to use materials in proper locations Students will know how to prepare the site for various structures	of a structural wall framing system. Students will know how to identify and build the various parts of a structural flooring system. Students will know how to identify and build the various parts of a roofing system.	plumbing and/or electrical system.	Students will know how to properly hang exterior doors Students will know how to install various types of siding materials ‘ Students will know how to install various types of roofing materials	Students will know how to cut and install trim Students will know how to hang and attach cabinetry Students will understand how to properly hang doors Students will understand the application of insulation.
Duration - Pacing	2-3 weeks	1-2 weeks	3 weeks	7 weeks	7 weeks	7-8 weeks	7 weeks
Evaluative Criteria	Combination of formative and summative assessments including but not limited to student demonstrations, performance tasks, tests, quizzes, and other hands or or written assessments	Combination of formative and summative assessments including but not limited to student demonstrations, performance tasks, tests, quizzes, and other hands or or written assessments	Combination of formative and summative assessments including but not limited to student demonstrations, performance tasks, tests, quizzes, and other hands or or written assessments	Combination of formative and summative assessments including but not limited to student demonstrations, performance tasks, tests, quizzes, and other hands or or written assessments	Combination of formative and summative assessments including but not limited to student demonstrations, performance tasks, tests, quizzes, and other hands or or written assessments	Combination of formative and summative assessments including but not limited to student demonstrations, performance tasks, tests, quizzes, and other hands or or written assessments	Combination of formative and summative assessments including but not limited to student demonstrations, performance tasks, tests, quizzes, and other hands or or written assessments
Differentiation for Learning	All assignments, projects, evaluations, etc. will be modified (extra time, group	All assignments, projects, evaluations, etc. will be modified (extra time, group instruction etc.) for	All assignments, projects, evaluations, etc. will be modified (extra time, group	All assignments, projects, evaluations, etc. will be modified (extra time, group	All assignments, projects, evaluations, etc. will be modified (extra time, group	All assignments, projects, evaluations, etc. will be modified (extra time, group instruction etc.) for	All assignments, projects, evaluations, etc. will be modified (extra time, group

	group instruction etc.) for individual students as well as following all IEP/504 requirements.	individual students as well as following all IEP/504 requirements.	instruction etc.) for individual students as well as following all IEP/504 requirements.	instruction etc.) for individual students as well as following all IEP/504 requirements.	instruction etc.) for individual students as well as following all IEP/504 requirements.	individual students as well as following all IEP/504 requirements.	instruction etc.) for individual students as well as following all IEP/504 requirements.
--	--	--	--	--	--	--	--