

GET THERE

Florida's Workforce Education Initiative

Integrated Education and Training
Single Set of Learning Objectives

Seminole State College



Single Set of Learning Objectives Template

Team Name or Number	Seminole State College
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Workforce Training Program	Building Trades and Construction Design Technology (C100100)

Determining the Integrated Education and Training (IET) Single Set of Learning Objectives and Competencies					
Week	Workforce Training Content and Objectives	Basic Skills Content and Objectives	Workforce Prep Activity	Resources and Activities	Required Assessments
week 1-4 Safety 90hrs	1. Demonstrate understanding and compliance with safety protocols and OSHA info	RLA: Identify specific pieces of evidence, analyze how data or quantitative and/or visual information	1. Provide examples of each of OSHA identified fatal 4 2. Using OSHA data, create graphic representation to provide statistics about fatal 4 incidents	1. www.osha.gov 2. Fatal Four booklet - canvas 3. https://www.youtube.com/watch?v=3TVRMfnUWhI (Links to an external site) 4. Ladder Safety- 1.pdf 5. https://www.youtube.com/watch?v=ho8Cy71Dtmc (Links to an external site.)	1. pass OSHA 10 exam 2. Complete OSHA assignment #1 in canvas 3. Complete OSHA assignment #2 in canvas
	2. Interpret SDS and explain procedures	MATH: lengths, distance, fractions, areas, weight and volume	Complete SDA worksheet - canvas	1. www.osha.gov - OSHA quick card 2. SDS OSHA Brief	SDS quiz - Canvas
	3. Discuss/analyze "Right to Know"	SCIENCE: Compounds and mixtures	Instructor led discussion of "Right to Know"	1. www.osha.gov - OSHA quick card 2. SDS OSHA Brief	SDS quiz - Canvas
		SS: Analyze cause-and-effect relationships	1. Wear PPE at all times in labs	1. instructor led demo of how to inspect and then properly wear PPE 2. https://www.youtube.com/watch?v=lfoTLeFooR4	1. Instructor observation of inspection and





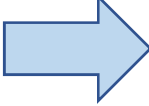
	<p>4.. Demonstrate proper use of PPE</p> <hr/> <p>5. Demonstrate safe use of hand and power tools</p> <hr/> <p>6. Explain and demonstrate emergency procedure for lab accidents</p>	<p>and multiple causation</p> <p>ELA: R.8.a Analyze & Identify specific pieces of evidence an author uses in support of claims or conclusions.</p> <p>R.7.b Analyze how data or quantitative and/or visual information extends, clarifies, or contradicts information in text or determines how data supports an author's argument.</p> <p>Science: SP.3 Reasoning from Data: SP.3.c. Make a prediction based upon data or evidence.</p>	<hr/> <p>1. Complete tool identification exercise in lab. 2. Build assigned project using only hand tools 3. Build two assigned projects using applicable power tools 4. Using a tape measure, add cut lines to assigned materials 5. Cut materials needed for assigned project 6. Systematically inspect all records 7. Systematically inspect all tools</p> <hr/> <p>1. Assess lab for safety concerns 2. discuss possible accidents and preventive measures</p> <hr/> <p>1. Using an architect's scale, convert a drawing from one scale to another 2. In Canvas, complete math worksheet by filling in missing dimensions</p>	<p>3. Field trip to construction site - list safety concerns seen on site 4. In groups of 2-3, students conduct safety audits in bldg. D labs</p> <hr/> <p>1. Students will rotate through a series of workstations and demonstrate the proper use of tape measure, hand, and power tools 2. Use a measuring tape to set cutlines used to practice tool techniques 3. demonstrate safe tool usage 4. https://www.youtube.com/watch?v=8pop5nwNSIM 5. https://www.youtube.com/watch?v=UK6Kmtep3rw 6. https://www.youtube.com/watch?v=o4ijHIRaGXc 7. https://www.youtube.com/watch?v=LKvyJ4CrvDQ</p> <hr/> <p>1. Instructor led lecture on accident prevention and reporting 2. Rotation of students as safety officers 3. completion of accident reports</p> <hr/> <p>1. Textbook - Blueprint Reading for the Construction Trades 2. Activity 1 & 2 in Canvas 3. Blueprint Reading video https://www.youtube.com/watch?v=DSuP4YkaJ40 4. Construction Drawing video https://www.youtube.com/watch?v=Fd8CLQmemJI</p> <hr/> <p>1. Construction Math -= https://www.youtube.com/watch?v=69I8HacCLxc 2. Measurement 3. Tape Measure Pro Tips https://www.youtube.com/watch?v=p-AltvcISQ8</p> <hr/> <p>1. Chemistry https://www.youtube.com/watch?v=6QHex91FB5g</p>	<p>proper PPE use 2. Daily use of PPE</p> <hr/> <p>1. Proper tool usage 2. Read a measuring tape 3. Work with whole numbers, fractions and decimals 4. Systematically inspect and use tools 5. Read a tape measure 6. Follow directions</p> <hr/> <p>1. evaluation of several accidents with report outlining what happened and how the accident</p>
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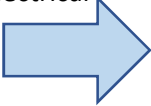
<p>Week 5-8 Blueprint Reading 90hrs</p>	<p>1. Read and interpret approved plans and specifications</p>	<p>Science SP.2: Explain the relationship of work, motion, and forces: P.2.a. Speed, velocity, acceleration, momentum, and collisions (e.g., inertia in a car accident, momentum transfer between two objects).</p>	<p>1. Use measuring tape to correctly measure wood for cutting</p>	<p>2. Materials https://www.youtube.com/watch?v=vYnpBve5Elc 3. Field trip - take inventory of building materials observed 4. Field trip to building supply expo to look at and touch building materials and hardware, and to attend vendor info sessions.</p>	<p>could have been prevented</p>
<p>Weeks 9-12 Construction Materials 90hrs</p>	<p>2. Demonstrate construction math knowledge and skills</p>	<p>ELA: R.2.a: Order sequences of events in plans.</p>	<p>1. Course project - Create a binder and report material and hardware/fixture options with pros/cons for each in carpentry, HVAC, electrical and plumbing</p>	<p>1. https://www.youtube.com/watch?v=hKtedrJKyQs 2. complete all activities on the electrical training board 3. https://www.youtube.com/watch?v=OGa_b26eK2c</p>	<p>1. Complete Quiz # 1 - Line types, drawing types, and symbols. 2. Using the set of plans given to you by your instructor, complete the assigned worksheet.</p>
	<p>01.0 Discuss, identify, classify and present construction components,</p>	<p>Math: Q.3.b: Use scale factors to determine the magnitude of a size change. Convert between actual</p>	<p>1. Using applicable formulas students will calculate how much of a given material is needed for a variety of projects (volume, area, math) operations).</p>	<p>1. https://www.youtube.com/watch?v=5T6de1Mfq04 2. https://www.youtube.com/watch?v=fJeRabV5hNU 3. https://www.youtube.com/watch?v=NtMoOhRTuH0 4. Ohm's Law & Voltage (Alessandro Volta) Video: https://youtu.be/HXOok3mfMLM 5. 5. Ohm's Law with a Khan Academy video: https://youtu.be/F_vLWkkOETI</p>	<p>1. Using a set of prints and materials provided by the instructor, and tools provided in the lab complete two woodworking projects (toolbox, sled, birdhouse, etc.)</p>
			<p>1. With a partner, rough in a section of the training wall per instructor guidelines.</p>		<p>1. Using a set of blueprints provided by your instructor, research materials, and identify materials, hardware, fasteners, etc.</p>

<p>Weeks 13-16 Electrical 90hrs</p>	<p>materials, hardware and characteristics.</p> <hr/> <p>1. Solve problems for volume, weight, area, circumference and perimeter measurements for rectangles, squares and cylinders.</p> <hr/> <p>01.0 Demonstrate electrical rough in skills.</p> <hr/> <p>Apply basic electrical theory</p>	<p>drawings and scale drawings.</p> <p>Math: Q.1a. Order fractions and decimals, including on a number line. 3.2 Convert like measurement units within a given measurement system in solving multi- step, real world problems.</p> <p>RLA: R.7.b: Analyze how data or quantitative and/or visual information extends, clarifies, or contradicts information in text or determines how data supports an author’s argument.</p> <p>Math: Q.5:</p>	<hr/> <p>1. Canvas worksheet - Electricity 2. Canvas worksheet - simple circuits 3. Canvas worksheet - voltage, current and resistance 4. Use a multimeter correctly</p> <hr/>		<p>needed to construct the structure. Be prepared to present and defend your choices.</p> <hr/> <p>Using the same set of blueprints you used to identify materials, hardware, fixtures, estimate the amount/# of each. Using the cost info provided by your instructor, estimate total cost of project</p> <hr/> <p>1. Demonstrate lock out/tag out procedure 2. Rough in 5 different fixtures/features assigned by your instructor</p> <hr/>
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	<p>to wiring a project.</p> <hr/>	<p>Calculate dimensions, surface area, and volume of three-dimensional figures</p> <p>MP.1.d: Recognize and identify missing information that is required to solve a problem</p> <p>Science: P.1.C: Types of energy (e.g., kinetic, chemical, mechanical) and transformations between types of energy</p> <p>Social Studies: SSP.6.b: Analyze information presented in a variety of maps, graphic organizers, tables, and charts; and in a variety of visual sources</p> <p>RLA: L.2: Demonstrate</p>			<p>1. Wire a section of the training wall per instructor guidelines</p> <p>2. Troubleshoot a "bugged" circuit and determine solution</p> <hr/>
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		command of the conventions of standard English capitalization and punctuation when writing. L.1.d: Edit to eliminate nonstandard or informal usage			
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IET Single Set of Learning Objectives		Competencies
Students will apply calculations with whole numbers, fractions and decimals to lab projects as they use available hand and power tools.	Safety 	1. proper tool usage; 2. read a measuring tape; 3. work with whole numbers, decimals and fractions; 4. read a measuring tape; 5. follow directions
Students will apply their knowledge of lab safety procedures, OSHA Fatal Four, Right to Know, and use of SDS to analyze, interpret, and graphically represent relevant OSHA statistics.	Safety 	1. workplace safety protocols and processes; 2. effective use of graphs; 3. data analysis; 4. reading safety labels.
Students will demonstrate proficiency working with a set of residential drawings by calculating missing dimensions, correctly interpreting symbols, and correctly locating information about electrical, plumbing, and HVAC plans.	Blueprint 	1. interpreting drawings; 2. Proficiency with math operations; 3. using a measuring tape; safely using hand and power tools
Students will demonstrate ability to classify the positive and negative aspects of a variety of building materials, hardware, and fixtures by choosing appropriate building materials for a given set of environmental conditions, for a variety of projects.	Materials 	1. oral communication; 2. compare/contrast; 3. research skills; 4. vendor familiarity
Using information provided by the instructor, students will correctly calculate area, volume, weight, and surface area of given objects in order to estimate project costs.	Materials 	1. estimating; 2. working with numbers; 3. purchasing; 4. developing bid specs

Students will demonstrate basic electrical skills and the ability to apply scientific theories when solving electrical calculations by installing electrical wiring per instructor guidelines.	Electrical 	1. basic wiring; 2. calculate voltage, current and resistance; 3. use multi meter; 4. estimating; 5. collaboration; 6. Teamwork; 7. follow directions
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This resource is supported with federal funds as appropriated to the Florida Department of Education, Division of Career and Adult Education for the provision of sample IET Single Set of Learning Outcomes.

