

Principles of Construction YAG 2019-2020

1ST 6 WEEKS	2ND 6 WEEKS	3RD 6 WEEKS
<p>Unit 1: Professional Standards/Employability Skills</p> <p>Students will discuss the professional standards and employability skills, including the role of an employee in the construction industry. Students will demonstrate critical-thinking skills, demonstrate the ability to solve problems using critical-thinking skills, demonstrate knowledge of basic computer systems, explain common uses for computers in the construction industry, and define effective relationship skills. Students will further develop and demonstrate these skills and attributes throughout the course. In small groups and/or in other classroom activities, students will recognize workplace issues such as sexual harassment, stress, and substance abuse, explain the Occupational Safety and Health Administration (OSHA) General Duty Clause, and explain OSHA 1926 CFR Subpart C.</p> <p>1.A,B,C,D,E,F,G,H,I</p> <p>Unit 2: Construction Mathematics</p> <p>Students will discuss basic construction mathematics. In small groups and/or in other classroom activities, students will add, subtract, multiply, and divide whole numbers with and without a calculator, add, subtract, multiply, and divide fractions, add, subtract, multiply, and divide decimals with and without a calculator, convert decimals to percentages and percentages to decimals, and convert fractions to decimals and decimals to fractions. Students will further develop and demonstrate these skills throughout the course.</p> <p>4.A,B,C,D,E</p>	<p>Unit 3: Measuring Practices</p> <p>Students will discuss the basic measuring practices. In small groups and/or other classroom activities, students will use a standard ruler, a metric ruler, a measuring tape, and an architectural/engineering scale to measure, explain what the metric system is and how it is important in the construction trade, recognize and use metric units of length, weight, volume, and temperature, and recognize some of the basic shapes used in the construction industry and apply basic geometric principles to measure them. Students will further develop and demonstrate these skills throughout the course.</p> <p>5.A,B,C,D</p> <p>Unit 4: Communication</p> <p>Students will interpret and present information used in workplace situations. In small groups and/or other classroom activities, students will interpret information and instructions presented in written form, interpret information and instructions presented in verbal form, communicate effectively using verbal and writing skills, and communicate effectively on the job using electronic communication devices. Students will further develop and demonstrate these skills throughout the course.</p> <p>9.A,B,C,D</p>	<p>Unit 5: Safety</p> <p>Students will discuss that safe working standards are imperative in the classroom and in the field. In small groups and/or in other classroom activities, students will explain the idea of a safety culture, explain the importance of a safety culture in the construction crafts, explain the role of the OSHA in job-site safety, explain fall protection, ladder safety, stair safety, and scaffold safety procedures, demonstrate the use and care of appropriate personal protective equipment, including safety goggles and glasses, hard hats, gloves, safety harnesses, and safety shoes, define safe work procedures around electrical hazards, and explain the importance of Safety Data Sheets (SDS). Students will further develop and demonstrate these skills throughout the course.</p> <p>2.A,B,C,D,E,F,G</p> <p>Unit 6: Hazards and Accidents</p> <p>Students will discuss the importance of recognizing potential hazards and preventing accidents in the classroom and in the field. In small group and/or in other classroom activities, students will identify causes of accidents, identify impacts of accident costs, define hazard recognition, identify struck-by hazards, identify caught-in-between hazards, identify other construction hazards on the jobsite, including hazardous material exposures, environmental elements, welding and cutting hazards, confined spaces, and fires, and explain the importance of hazard communication (HazCom).</p> <p>3.A,B,C,D,E,F,G</p>

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4TH 6 WEEKS	5TH 6 WEEKS	6TH 6 WEEKS
<p>Unit 7: Hand Tools</p> <p>Students will discuss the care and identification of hand tools. In small groups and/or other classroom activities, students will recognize and identify the basic hand tools and their purposes for the construction trades, inspect basic hand tools visually to determine if they are safe for use, and use the basic construction hand tools safely and properly.</p> <p>6.A,B,C</p> <p>Unit 8: Powered Hand Tools</p> <p>Students will discuss the care and identification of powered hand tools. In small groups and/or other classroom activities, students will identify powered hand tools commonly used in the construction trades, practice safe and proper applications of powered hand tools used in the construction trades, and explain how to properly maintain and clean powered hand tools used in construction trades.</p> <p>7.A,B,C</p>	<p>Unit 9: Ergonomic Tools and Safe Material Handling</p> <p>Students will discuss ergonomic tools and procedures as well as safe material handling standards. In small groups and/or classroom activities, students will define a load, establish a pre-task plan prior to moving a load, apply proper material-handling techniques, choose appropriate material-handling equipment for the task, and recognize hazards and follow safety procedures required for material handling.</p> <p>10.A,B,C,D,E</p>	<p>Unit 10: Construction Drawing</p> <p>Students will discuss the basics of construction drawing. In small groups and/or other classroom activities, students will interpret and use drawing dimensions, recognize and identify basic construction terms, recognize and identify basic drawing components, recognize and identify commonly used drawing symbols, relate information on construction drawings to actual locations on the print, and recognize different classifications of construction drawings. As a culminating activity for this unit, students will present on the basics of construction drawing with examples woven into their presentation.</p> <p>8.A,B,C,D,E,F</p>