NIMS Measurement, Materials and Safety Credential Exam Prep

Math Fundamentals 101 - The class "Math Fundamentals" covers basic arithmetic operations, including addition, subtraction, multiplication, and division. Additionally, it introduces the concept of negative numbers and integers. The class concludes with an overview of the order of operations and grouping symbols.

Math: Fractions and Decimals 111 - "Math: Fractions and Decimals" provides the methods used to perform basic mathematical operations using fractions, decimals, and percentages. The class covers addition, subtraction, multiplication, and division with fractions and decimals. It also discusses conversions between fractions, decimals, mixed numbers, and improper fractions.

SDS and Hazard Communication 151 - "SDS and Hazard Communication" focuses on communication methods about hazardous workplace substances and how they increase employee awareness and safety.

Lockout/Tagout Procedures 141 - "Lockout/Tagout Procedures" details the OSHA requirements and best practices for preventing accidental startup during maintenance and repair.

Bloodborne Pathogens 161 - The class “Bloodborne Pathogens” explains the nature of common bloodborne pathogens and how to handle exposure in the workplace.

Personal Protective Equipment 111 - The class “Personal Protective Equipment” introduces the purpose and uses of personal protective equipment (PPE). As defined by the Occupational Safety and Health Administration (OSHA), PPE minimizes exposure to hazards and helps prevent injury. In order to select appropriate PPE, employers must first evaluate the workplace with a hazard assessment. PPE may be categorized by the area of the body it protects. PPE is available in several types, designs, and materials. Every employer is responsible for providing the appropriate PPE for workers who require it, and it is every employee's responsibility to properly wear and use PPE. OSHA does not often specify which types of PPE should be worn, but requires that employers train each employee in proper use and retrain when PPE changes or if PPE is used improperly. After taking this class, users should be able to describe OSHA regulations regarding personal protective equipment and how they impact day-to-day operations in the workplace.

NIMS Core Skills 111 - “NIMS Core Skills” covers the skills necessary for all job roles within the NIMS Level 1 Machining standard. This course introduces a variety of blueprint reading and measurement topics.

Taking this course in conjunction with the other listed requirements for the NIMS Machining Level 1 standards will prepare users for certification in CNC Milling: Operations; CNC Turning: Operations; CNC Milling: Programming, Setup, and Operations; CNC Turning: Programming, Setup, and Operations; Drill Press Skills, Grinding Skills, Job Planning, Benchwork, and Layout; Manual Machining Skills; Measurement, Materials, and Safety; Turning Operations: Turning Between Centers, and Turning Operations: Chucking.

NIMS Core Measurement and Materials Skills 211 - “NIMS Core Measurement and Materials Skills 211” covers skills necessary for the Measurement, Materials, and Safety competency within the NIMS Level 1 Machining standard. This course covers sampling and inspection topics regarding hole tolerance, fit, and gage blocks, as well as file selection, maintenance, and use.

Taking this course in conjunction with the other listed requirements for the NIMS Level 1 Machining standard will prepare users for certification in Measurement, Materials, and Safety.

NIMS Core Machining Skills 121 - “NIMS Core Machining Skills” covers the skills necessary for machining job roles within the NIMS Level 1 Machining standard. This course introduces a variety of safety topics, as well as deburring and refractometer readings.

Taking this course in conjunction with the other listed requirements for the NIMS Machining Level 1 standards will prepare users for certification in CNC Milling: Operations; CNC Turning: Operations; CNC Milling: Programming, Setup, and Operations; CNC Turning: Programming, Setup, and Operations; Drill Press Skills; Manual Machining Skills; Turning Operations: Turning Between Centers; and Turning Operations: Chucking.

Fire Safety and Prevention 181 - The class “Fire Safety and Prevention” examines common workplace fire safety procedures. Fires, no matter how small, should be reported immediately.

Trigonometry: The Pythagorean Theorem 201 - “Trigonometry: The Pythagorean Theorem” provides an explanation of the Pythagorean theorem and how it is used to solve various math problems involving and using right triangles. The class covers the use of powers and roots and the process that is used to solve for unknown dimensions on blueprints. After taking this class, users will be able to use the Pythagorean theorem to calculate missing lengths in right triangles and solve for missing dimensions on various types of blueprints by utilizing right triangles where appropriate.

Trigonometry: Sine, Cosine, Tangent 211 - The class "Trigonometry: Sine, Cosine, and Tangent" discusses the three basic ratios that are the basis for trigonometry. After taking this class, a user should be able to define the various trigonometric ratios, and use them to solve various problems, including calculating a taper angle on a print.

Cutting Processes 111 - Cutting Processes provides an introductory overview of common metal cutting operations. The class focuses on the most common machining tools: the saw, lathe, and mill, and the common processes performed on each, including band sawing, turning, end milling, and drilling. "Cutting Processes" also offers an introduction to holemaking and describes the differences between inner and outer diameter operations. After taking this class, students should be able to identify the most common cutting processes, as well as the machines used to perform them.
Lubricant Fundamentals 211 - "Lubricant Fundamentals" describes different types of lubricants and appropriate uses for them in machines and mechanical systems. A variety of machines require proper lubrication in order to function safely and efficiently. Lubricants help prevent wear and ensure operational efficiency by decreasing friction between components in contact. Common industrial lubricants include oil, grease, and solid lubricants.
Introduction to Metal Cutting Fluids 221 - "Introduction to Metal Cutting Fluids" provides an overview of the use of cutting fluids in machining operations, including basic fluid safety and maintenance. Each type is classified by its contents. Proper cutting fluid application can prolong tool life and improve finished part quality, reducing scrap and tool cost. Awareness of cutting fluid hazards and maintenance helps increase workplace safety and reduce fluid costs. After taking this class, users will be able to identify the common types of cutting fluids and describe their optimal use.After explaining the basic function of cutting fluid, the class describes each category of fluid and its benefits and drawbacks.
Metal Cutting Fluid Safety 231 - Metal Cutting Fluid Safety provides an overview of the safety concerns related to working with metal cutting fluids. After taking this class, users will know how to differentiate between various cutting fluids, recognize the health risks they pose, and understand how to use, handle, and maintain them safely.
Classification of Steel 201 - "Classification of Steel" introduces users to steel designations systems, particularly AISI-SAE and UNS methods. This class describes classifications for plain carbon, alloy, high-strength low alloy, stainless, and tool steels, with a focus on AISI-SAE designations.
Surface Texture and Inspection 201 - The class “Surface Texture and Inspection” provides information on surface finish and methods involved for its inspection. After the class, users should be able to describe commonly used methods for tolerancing a part's surface roughness in a production environment.
Introduction to GD&T 301 - The class “Introduction to GD&T” provides a basic introduction to the symbols and vocabulary of geometric dimensioning and tolerancing, or GD&T. After taking this class, users should be able to better understand the symbols commonly used in a GD&T print.