

THE FUTURE OF SKILLS EMPLOYMENT IN 2030

GLOSSARY OF SKILLS

INTRODUCTION

The *Glossary of Skills* provides precise definitions as to what is meant by each of the skills, abilities, and knowledge features referenced in the context of *The Future of Skills: Employment in 2030* report. These features are collectively referred to as "skills."

These definitions come from O*NET, a free online database from the US Department of Labor's Occupational Information Network. The database contains hundreds of occupational definitions to help students, job seekers, businesses, and workforce development professionals understand today's world of work in the United States. Data from the 2016 O*NET survey was used in *The Future of Skills: Employment in 2030* to understand the skills, abilities, and knowledge features that make up each occupation group now, and to inform our predictions about the future.

GLOSSARY OF SKILLS

Active Learning (S)

Understanding the implications of new information for both current and future problem-solving and decision-making.

Active Listening (S)

Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Administration and Management (K)

Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.

Arm-Hand Steadiness (A)

The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.

Auditory Attention (A)

The ability to focus on a single source of sound in the presence of other distracting sounds.

Biology (K)

Knowledge of plant and animal organisms, their tissues, cells, functions, interdependencies, and interactions with each other and the environment.

Building and Construction (K)

Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.

Category Flexibility (A)

The ability to generate or use different sets of rules for combining or grouping things in different ways.

Chemistry (K)

Knowledge of the chemical composition, structure, and properties of substances and of the chemical processes and transformations that they undergo. This includes uses of chemicals and their interactions, danger signs, production techniques, and disposal methods.

Clerical (K)

Knowledge of administrative and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.

Communications and Media (K)

Knowledge of media production, communication, and dissemination techniques and methods. This includes alternative ways to inform and entertain via written, oral, and visual media.

Complex Problem Solving (S)

Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

Computers and Electronics (K)

Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.

Control Precision (A)

The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.

Coordination (S)

Adjusting actions in relation to others' actions.

Critical Thinking (S)

Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

Customer and Personal Service (K)

Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.

Deductive Reasoning (A)

The ability to apply general rules to specific problems to produce answers that make sense.

Depth Perception (A)

The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.

Design (K)

Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.

Dynamic Flexibility (A)

The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.

Dynamic Strength (A)

The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.

Economics and Accounting (K)

Knowledge of economic and accounting principles and practices, the financial markets, banking and the analysis and reporting of financial data.

K — Knowledge

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Education and Training (K)

Knowledge of principles and methods for curriculum and training design, teaching and instruction for individuals and groups, and the measurement of training effects.

Engineering and Technology (K)

Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.

English Language (K)

Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.

Equipment Maintenance (S)

Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.

Equipment Selection (S)

Determining the kind of tools and equipment needed to do a job.

Explosive Strength (A)

The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.

Extent Flexibility (A)

The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.

Far Vision (A)

The ability to see details at a distance.

Fine Arts (K)

Knowledge of the theory and techniques required to compose, produce, and perform works of music, dance, visual arts, drama, and sculpture.

Finger Dexterity (A)

The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.

Flexibility of Closure (A)

The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.

Fluency of Ideas (A)

The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).

Food Production (K)

Knowledge of techniques and equipment for planting, growing, and harvesting food products (both plant and animal) for consumption, including storage/handling techniques.

Foreign Language (K)

Knowledge of the structure and content of a foreign (non-English) language including the meaning and spelling of words, rules of composition and grammar, and pronunciation.

Geography (K)

Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life.

Glare Sensitivity (A)

The ability to see objects in the presence of glare or bright lighting.

Gross Body Coordination (A)

The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.

Gross Body Equilibrium (A)

The ability to keep or regain your body balance or stay upright when in an unstable position.

Hearing Sensitivity (A)

The ability to detect or tell the differences between sounds that vary in pitch and loudness.

History and Archeology (K)

Knowledge of historical events and their causes, indicators, and effects on civilizations and cultures.

Inductive Reasoning (A)

The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).

Information Ordering (A)

The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).

Installation (S)

Installing equipment, machines, wiring, or programs to meet specifications.

Instructing (S)

Teaching others how to do something.

Judgment and Decision Making (S)

Considering the relative costs and benefits of potential actions to choose the most appropriate one.

Law and Government (K)

Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.

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Learning Strategies (S)

Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.

Management of Financial Resources (S)

Determining how money will be spent to get the work done, and accounting for these expenditures.

Management of Material Resources (S)

Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.

Management of Personnel Resources (S)

Motivating, developing, and directing people as they work, identifying the best people for the job.

Manual Dexterity (A)

The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.

Mathematical Reasoning (A)

The ability to choose the right mathematical methods or formulas to solve a problem.

Mathematics (K)

Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

Mathematics (S)

Using mathematics to solve problems.

Mechanical (K)

Knowledge of machines and tools, including their designs, uses, repair, and maintenance.

Medicine and Dentistry (K)

Knowledge of the information and techniques needed to diagnose and treat human injuries, diseases, and deformities. This includes symptoms, treatment alternatives, drug properties and interactions, and preventive health-care measures.

Memorization (A)

The ability to remember information such as words, numbers, pictures, and procedures.

Monitoring (S)

Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

Multilimb Coordination (A)

The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.

Near Vision (A)

The ability to see details at close range (within a few feet of the observer).

Negotiation (S)

Bringing others together and trying to reconcile differences.

Night Vision (A)

The ability to see under low light conditions.

Number Facility (A)

The ability to add, subtract, multiply, or divide quickly and correctly.

Operation and Control (S)

Controlling operations of equipment or systems.

Operation Monitoring (S)

Watching gauges, dials, or other indicators to make sure a machine is working properly.

Operations Analysis (S)

Analyzing needs and product requirements to create a design.

Oral Comprehension (A)

The ability to listen to and understand information and ideas presented through spoken words and sentences.

Oral Expression (A)

The ability to communicate information and ideas in speaking so others will understand.

Originality (A)

The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.

Perceptual Speed (A)

The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.

Peripheral Vision (A)

The ability to see objects or movement of objects to one's side when the eyes are looking ahead.

Personnel and Human Resources (K)

Knowledge of principles and procedures for personnel recruitment, selection, training, compensation and benefits, labor relations and negotiation, and personnel information systems.

Persuasion (S)

Persuading others to change their minds or behavior.

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Philosophy and Theology (K)

Knowledge of different philosophical systems and religions. This includes their basic principles, values, ethics, ways of thinking, customs, practices, and their impact on human culture.

Physics (K)

Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and sub-atomic structures and processes.

Problem Sensitivity (A)

The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.

Production and Processing (K)

Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.

Programming (S)

Writing computer programs for various purposes.

Psychology (K)

Knowledge of human behavior and performance; individual differences in ability, personality, and interests; learning and motivation; psychological research methods; and the assessment and treatment of behavioral and affective disorders.

Public Safety and Security (K)

Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.

Quality Control Analysis (S)

Conducting tests and inspections of products, services, or processes to evaluate quality or performance.

Rate Control (A)

The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.

Reaction Time (A)

The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.

Reading Comprehension (S)

Understanding written sentences and paragraphs in work related documents.

Repairing (S)

Repairing machines or systems using the needed tools.

Response Orientation (A)

The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot, or other body part.

Sales and Marketing (K)

Knowledge of principles and methods for showing, promoting, and selling products or services. This includes marketing strategy and tactics, product demonstration, sales techniques, and sales control systems.

Science (K)

Using scientific rules and methods to solve problems.

Selective Attention (A)

The ability to concentrate on a task over a period of time without being distracted.

Service Orientation (S)

Actively looking for ways to help people.

Social Perceptiveness (S)

Being aware of others' reactions and understanding why they react as they do.

Sociology and Anthropology (K)

Knowledge of group behavior and dynamics, societal trends and influences, human migrations, ethnicity, cultures and their history and origins.

Sound Localization (K)

The ability to tell the direction from which a sound originated.

Spatial Orientation (A)

The ability to know your location in relation to the environment or to know where other objects are in relation to you.

Speaking (S)

Talking to others to convey information effectively.

Speech Clarity (A)

The ability to speak clearly so others can understand you.

Speech Recognition (A)

The ability to identify and understand the speech of another person.

Speed of Closure (A)

The ability to quickly make sense of, combine, and organize information into meaningful patterns.

Speed of Limb Movement (A)

The ability to quickly move the arms and legs.

Stamina (A)

The ability to exert yourself physically over long periods of time without getting winded or out of breath.

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Static Strength (A)

The ability to exert maximum muscle force to lift, push, pull, or carry objects.

Systems Analysis (S)

Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.

Systems Evaluation (S)

Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.

Technology Design (S)

Generating or adapting equipment and technology to serve user needs.

Telecommunications (K)

Knowledge of transmission, broadcasting, switching, control, and operation of telecommunications systems.

Therapy and Counseling (K)

Knowledge of principles, methods, and procedures for diagnosis, treatment, and rehabilitation of physical and mental dysfunctions, and for career counseling and guidance.

Time Management (S)

Managing one's own time and the time of others.

Time Sharing (A)

The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources).

Transportation (A)

Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, including the relative costs and benefits.

Troubleshooting (S)

Determining causes of operating errors and deciding what to do about it.

Trunk Strength (A)

The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.

Visual Color Discrimination (A)

The ability to match or detect differences between colors, including shades of color and brightness.

Visualization (A)

The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.

Wrist-Finger Speed (A)

The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.

Writing (S)

Communicating effectively in writing as appropriate for the needs of the audience.

Written Comprehension (A)

The ability to read and understand information and ideas presented in writing.

Written Expression (A)

The ability to communicate information and ideas in writing so others will understand.

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