

APPENDIX A: DEFINITIONS OF SELECTED MIDDLE-SKILL JOBS

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AGRICULTURE, WATER & ENVIRONMENTAL TECHNOLOGIES

Agricultural and Food Science Technicians (SOC 19-4011): Work with agricultural and food scientists in food, fiber, and animal research, production, and processing; and assist with animal breeding and nutrition. Conduct tests and experiments to improve yield and quality of crops or to increase the resistance of plants and animals to disease or insects. Includes technicians who assist food scientists or technologists in the research and development of production technology, quality control, packaging, processing, and use of foods. Sample job titles include:

- Seed Analyst
- Agricultural Technician
- Research Technologist
- Quality Assurance Technician
- Technical Services Analyst
- Quality Control Technician

Agricultural Inspectors (SOC 45-2011): Inspect agricultural commodities, processing equipment, and facilities, and fish and logging operations, to ensure compliance with regulations and laws governing health, quality, and safety. Sample job titles include:

- Food Inspector
- Brand Inspector
- Agricultural Commodities Grader
- Shipping Point Inspector
- Seed and Fertilizer Specialist
- Inspector, Food Safety and Inspection Service

Environmental Engineering Technicians (SOC 17-3025): Apply theory and principles of environmental engineering to modify, test, and operate equipment and devices used in the prevention, control, and remediation of environmental problems, including waste treatment and site remediation, under the direction of engineering staff or scientist. May assist in the development of environmental remediation devices. Sample job titles include:

- Industrial Waste Inspector
- Haz Tech
- Environmental Specialist
- Environmental Field Technician
- Environmental Engineering Assistant
- Engineer Technician

Farmers, Ranchers, and Other Agricultural Managers (SOC 11-9013): Plan, direct, or coordinate the management or operation of farms, ranches, greenhouses, aqua-cultural operations, nurseries, timber tracts, or other agricultural establishments. May hire, train, and supervise farm workers or contract for services to carry out the day-to-day activities of the managed operation. May engage in or supervise planting, cultivating, harvesting, and financial and marketing activities. Sample job titles include:

- Nursery Manager
- Horticulturist
- Greenhouse Manager
- Ranch Manager
- Herdsman
- Hatchery Manager

First-Line Supervisors of Farming, Fishing, and Forestry Workers (SOC 45-1011): Directly supervise and coordinate the activities of agricultural, forestry, aqua-cultural, and related workers. Sample job titles include:

- Logging Supervisor
- Trucking Supervisor
- Wildlife Manager
- Irrigation Foreman
- Sow Farm Manager
- Research Animal Facility Supervisor

Pesticide Handlers, Sprayers, and Applicators, Vegetation (SOC 37-3012): Mix or apply pesticides, herbicides, fungicides, or insecticides through sprays, dusts, vapors, soil incorporation, or chemical application on trees, shrubs, lawns, or botanical crops. Usually requires specific training and State or Federal certification. Sample job titles include:

- Lawn Care Specialist
- Tree and Shrub Technician
- Spray Technician
- Pest Control Technician
- Licensed Pesticide Applicator

Water and Wastewater Treatment Plant and System Operators (SOC 51-8031): Operate or control an entire process or system of machines, often through the use of control boards, to transfer or treat water or wastewater. Sample job titles include:

- Wastewater Plant Operator
- Water Plant Operator
- Water Control Dispatcher
- Water Treatment Plant Operator

ICT & DIGITAL MEDIA

Computer Network Support Specialists (SOC 15-1152): Analyze, test, troubleshoot, and evaluate existing network systems, such as local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system. Perform network maintenance to ensure networks operate correctly with minimal interruption. Sample job titles include:

- Systems Support Specialist
- Network Technician
- Network Technical Analyst
- Senior IT Assistant
- Personal Computer Network Analyst

Computer Occupations, All Other (SOC 15-1199): All computer occupations not listed separately. Sample job titles include:

- **Web Administrators (SOC 15-1199.03):** Manage web environment design, deployment, development and maintenance activities. Perform testing and quality assurance of web sites and web applications.
- **Geographic Information Systems Technicians (SOC 15-1199.05):** Assist scientists, technologists, or related professionals in building, maintaining, modifying, or using geographic information systems (GIS) databases. May also perform some custom application development or provide user support.
- **Database Architects (SOC 15-1199.06):** Design strategies for enterprise database systems and set standards for operations, programming, and security. Design and construct large relational databases. Integrate new systems with existing warehouse structure and refine system performance and functionality.
- **Business Intelligence Analysts (SOC 15-1199.08):** Produce financial and market intelligence by querying data repositories and generating periodic reports. Devise methods for identifying data patterns and trends in available information sources.

Computer User Support Specialists (SOC 15-1151): Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, or via telephone or electronically. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems. Sample job titles include:

- Help Desk Technician
- Desktop Support Specialist
- PC Tech
- IT Support Specialist
- Information Technology Analyst or Technician

First-Line Supervisors of Office and Administrative Support Workers (SOC 43-1011): Directly supervise and coordinate the activities of clerical and administrative support workers.. Sample job titles include:

- Payroll Supervisor
- Customer Service Manager
- Clerical Supervisor
- Accounting Supervisor
- Office Manager
- Front End Manager

Graphic Designers (SOC 27-1024): Design or create graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. May use a variety of mediums to achieve artistic or decorative effects. Sample job titles include:

- Visual Designer
- Publications Designer
- Production Artist
- Graphic Artist

Network and Computer Systems Administrators (SOC 15-1142): Install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system. Monitor network to ensure network availability to all system users and may perform necessary maintenance to support network availability. May monitor and test Web site performance to ensure Web sites operate correctly and without interruption. May assist in network modeling, analysis, planning, and coordination between network and data communications hardware and software. May supervise computer user support specialists and computer network support specialists. May administer network security measures. Sample job titles include:

- WAN or LAN Administrator
- Server Administrator
- Network Coordinator
- Telecommunications Analyst
- Systems Operator
- Systems Administrator

HEALTH CARE

Community Health Workers (SOC 21-1094): Assist individuals and communities to adopt healthy behaviors. Conduct outreach for medical personnel or health organizations to implement programs in the community that promote, maintain, and improve individual and community health. May provide information on available resources, provide social support and informal counseling, advocate for individuals and community health needs, and provide services such as first aid and blood pressure screening. May collect data to help identify community health needs. Sample job titles include:

- Community Health Promoter
- Community Health Outreach Worker
- Community Health Program Coordinator/Representative
- HIV Counseling and Testing Services Specialist

Dental Assistants (SOC 31-9091): Assist dentist, set up equipment, prepare patient for treatment, and keep records. Sample job titles include:

- Surgical Dental Assistant
- Orthodontic Assistant/Technician
- Certified/Registered Dental Assistant (CDA or RDA)
- Oral Surgery Assistant
- Expanded Function Dental Assistant
- Expanded Duty Dental Assistant

Emergency Medical Technicians and Paramedics (SOC 29-2041): Assess injuries, administer emergency medical care, and extricate trapped individuals. Transport injured or sick persons to medical facilities. Sample job titles include:

- Paramedic
- Flight Paramedic
- Multi Care Technician
- Emergency Medical Technician/Dispatcher
- Emergency Medical Technician/Driver
- First Responder

Licensed Practical and Licensed Vocational Nurses (SOC 29-2061): Care for ill, injured, or convalescing patients or persons with disabilities in hospitals, nursing homes, clinics, private homes, group homes, and similar institutions. May work under the supervision of a registered nurse. Licensing required. Sample job titles include:

- Triage Licensed Practical Nurse
- Pediatric Licensed Practical Nurse
- Private Duty Nurse
- Office Nurse
- Clinic Nurse
- Charge Nurse

Medical Assistants (SOC 31-9092): Perform administrative and certain clinical duties under the direction of a physician. Administrative duties may include scheduling appointments, maintaining medical records, billing, and coding information for insurance purposes. Clinical duties may include taking and recording vital signs and medical histories, preparing patients for examination, drawing blood, and administering medications as directed by physician. Sample job titles include:

- Chiropractor Assistant
- Certified Medical Assistant
- Clinical Assistant
- Registered Medical Assistant
- Medical Office Assistant
- Doctor's Assistant

Pharmacy Technicians (SOC 29-2052): Prepare medications under the direction of a pharmacist. May measure, mix, count out, label, and record amounts and dosages of medications according to prescription orders. Sample job titles include:

- Certified Pharmacy Technician (CPhT)
- Senior Pharmacy Technician
- Lead Pharmacy Technician
- Accredited Pharmacy Technician

Registered Nurses (SOC 29-1141): Assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients. May advise patients on health maintenance and disease prevention or provide case management. Licensing or registration required. Includes Clinical Nurse Specialists. Sample job titles include:

- Clinical Nurse Specialist
- Staff Nurse
- Intensive Care Unit Nurse
- Critical Care Registered Nurse
- Pediatric/Psychiatric Clinical Nurse Specialist

Social and Human Service Assistants (SOC 21-1093): Assist in providing client services in a wide variety of fields, such as psychology, rehabilitation, or social work, including support for families. May assist clients in identifying and obtaining available benefits and social and community services. May assist social workers with developing, organizing, and conducting programs to prevent and resolve problems relevant to substance abuse, human relationships, rehabilitation, or dependent care. Sample job titles include:

- Social Work Assistant
- Community Coordinator
- Residential Assistant
- Outreach Specialist
- Family Support Worker
- Addictions Counselor Assistant

ADVANCED MANUFACTURING

Electrical and Electronics Repairers, Powerhouse, Substation, and Relay (SOC 49-2095): Inspect, test, repair, or maintain electrical equipment in generating stations, substations, and in-service relays.. Sample job titles include:

- Substation Mechanic
- Wireman
- Meter/Relay Technician
- Maintenance Technician
- Lineman
- Instrumentation and Control Technician

Engineering Technicians, Except Drafters, All Other (SOC 17-3029): All engineering technicians, except drafters, not listed separately. Sample job titles include:

- **Electrical Engineering Technologists (SOC 17-3029.02):** Assist electrical engineers in such activities as process control, electrical power distribution, or instrumentation design. May prepare layouts of electrical transmission or distribution systems, supervise the flow of work, estimate project costs, or participate in research studies.
- **Industrial Engineering Technologists (SOC 17-3029.05):** Assist industrial engineers in such activities as quality control, inventory control, or material flow methods. May conduct statistical studies or analyze production costs.
- **Manufacturing Engineering Technologists (SOC 17-3029.06):** Develop tools, implement designs, or integrate machinery, equipment, or computer technologies to ensure effective manufacturing processes.
- **Photonics Technicians (SOC 17-3029.08):** Build, install, test, or maintain optical or fiber optic equipment, such as lasers, lenses, or mirrors, using spectrometers, interferometers, or related equipment.

Welders, Cutters, Solderers, and Brazers (SOC 51-4121): Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products. Sample job titles include:

- Maintenance Welder
- Aluminum Welder
- Wirer
- Solderer
- Refrigeration Brazer/Solderer
- Production Welder

ADVANCED TRANSPORTATION & LOGISTICS

Automotive Service Technicians and Mechanics (SOC 49-3023): Diagnose, adjust, repair, or overhaul automotive vehicles.

Sample job titles include:

- Transmission Rebuilder
- Service Technician
- Truck Technician
- Automobile Mechanic (Auto Mechanic)
- Lube Technician
- Trim Technician

Bus Drivers, School or Special Client (SOC 53-3022): Transport students or special clients, such as the elderly or persons with disabilities. Ensure adherence to safety rules. May assist passengers in boarding or exiting. Sample job titles include:

- School Bus Driver
- Special Needs Bus Driver
- Shuttle Bus Driver
- School Bus Driver/Mechanic
- School Bus Driver/Teacher Assistant

Bus Drivers, Transit and Intercity (SOC 53-3021): Drive bus or motor coach, including regular route operations, charters, and private carriage. May assist passengers with baggage. May collect fares or tickets. Sample job titles include:

- Motor Coach Operator
- Bus Operator
- Transit Operator
- Charter Coach Driver
- Tram Driver
- Tour Bus Driver

Bus and Truck Mechanics and Diesel Engine Specialists (SOC 49-3031): Diagnose, adjust, repair, or overhaul buses and trucks, or maintain and repair any type of diesel engines. Includes mechanics working primarily with automobile or marine diesel engines. Sample job titles include:

- Diesel Mechanic
- Trailer Mechanic
- Truck Mechanic
- Transit Mechanic
- Service Technician
- General Repair Mechanic

Farm Equipment Mechanics and Service Technicians (SOC 49-3041): Diagnose, adjust, repair, or overhaul farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems. Sample job titles include:

- Tractor Mechanic
- Field Technician
- Shop Mechanic
- Agriculture Mechanic
- Farm Equipment Service Technician

Heavy and Tractor-Trailer Truck Drivers (SOC 53-3032): Drive a tractor-trailer combination or a truck with a capacity of at least 26,000 pounds Gross Vehicle Weight (GVW). May be required to unload truck. Requires commercial drivers' license.

Sample job titles include:

- Semi-Truck Driver
- Mixer Driver
- Line Haul Driver
- Tractor Trailer Operator
- Roll Off Driver
- Log Truck Driver

BUSINESS & ENTREPRENEURSHIP

Administrative Services Managers (SOC 11-3011): Plan, direct, or coordinate one or more administrative services of an organization, such as records and information management, mail distribution, facilities planning and maintenance, custodial operations, and other office support services. Sample job titles include:

- Facilities Director
- Business Administrator
- Administrative Services Manager
- Office Manager
- Administrative Officer

Bill and Account Collectors (SOC 43-3011): Locate and notify customers of delinquent accounts by mail, telephone, or personal visit to solicit payment. Duties include receiving payment and posting amount to customer's account; preparing statements to credit department if customer fails to respond; initiating repossession proceedings or service disconnection; and keeping records of collection and status of accounts. Sample job titles include:

- Debt Collector
- Collection Agent
- Telephone Collector
- Patient Account Representative
- Customer Account Specialist
- Credit Clerk

Bookkeeping, Accounting, and Auditing Clerks (SOC 43-3031): Compute, classify, and record numerical data to keep financial records complete. Perform any combination of routine calculating, posting, and verifying duties to obtain primary financial data for use in maintaining accounting records. May also check the accuracy of figures, calculations, and postings pertaining to business transactions recorded by other workers. Sample job titles include:

- Accounts Receivable Clerk
- Accounts Payable Clerk
- Fiscal Technician
- Accounting Assistant
- Accounting Specialist

Cost Estimators (SOC 13-1051): Interact with customers to provide information in response to inquiries about products and services and to handle and resolve complaints. Excludes individuals whose duties are primarily installation, sales, or repair. Sample job titles include:

- Construction Estimator
- Cost Analyst
- Estimator
- Cost Consultant
- Cost Consultant
- Acquisition Cost Estimator

Data Entry Keyers (SOC 43-9021): Operate data entry device, such as keyboard or photo composing perforator. Duties may include verifying data and preparing materials for printing. Sample job titles include:

- Records Clerk
- Data Entry Specialist
- Underwriting Support Specialist
- Typist
- Fiscal Assistant
- Data Transcriber

Executive Secretaries and Executive Administrative Assistants (SOC 43-6011): Provide high-level administrative support by conducting research, preparing statistical reports, handling information requests, and performing clerical functions such as preparing correspondence, receiving visitors, arranging conference calls, and scheduling meetings. May also train and supervise lower-level clerical staff. Sample job titles include:

- Administrative Aide
- Executive Assistant
- Administrative Secretary
- Staff Assistant
- Personal Secretary
- Office Administrator

Industrial Production Managers (SOC 11-3051): Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost, quality, and quantity specifications. Sample job titles include:

- Quality Control Supervisor
- Site Manager
- Biofuels Production Manager
- Production Support Supervisor
- Power Project Manager

Legal Secretaries (SOC 43-6012): Perform secretarial duties using legal terminology, procedures, and documents. Prepare legal papers and correspondence, such as summonses, complaints, motions, and subpoenas. May also assist with legal research. Sample job titles include:

- Secretary
- Paralegal
- Magistrate Assistant
- Litigation Assistant
- Legal Secretary
- Judicial Administrative Assistant

Loan Interviewers and Clerks (SOC 43-4131): Interview loan applicants to elicit information; investigate applicants' backgrounds and verify references; prepare loan request papers; and forward findings, reports, and documents to appraisal department. Review loan papers to ensure completeness, and complete transactions between loan establishment, borrowers, and sellers upon approval of loan. Sample job titles include:

- Mortgage Loan Processor
- Loan Processor
- Underwriter
- Mortgage Broker
- Loan Clerk
- Loan Analyst

Payroll and Timekeeping Clerks (SOC 43-3051): Compile and record employee time and payroll data. May compute employees' time worked, production, and commission. May compute and post wages and deductions or prepare paychecks. Sample job titles include:

- Timekeeper
- Payroll Technician
- Personnel Assistant
- Payroll Specialist

Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (SOC 41-4012): Sell goods for wholesalers or manufacturers to businesses or groups of individuals. Work requires substantial knowledge of items sold. Data is not available for this type of title.

- Sales Representative
- Sales Consultant
- Outside Sales Representative
- Account Representative
- Salesperson

Tax Examiners and Collectors, and Revenue Agents (SOC 13-2081): Determine tax liability or collect taxes from individuals or business firms according to prescribed laws and regulations. Sample job titles include:

- Internal Revenue Agent
- City Collector
- Tax Collector
- Tax Auditor
- Income Tax Investigator
- Tax Compliance Representative

Tax Preparers (SOC 13-2082): Prepare tax returns for individuals or small businesses. Sample job titles include:

- Tax Specialist
- Tax Consultant
- Income Tax Preparer
- Tax Professional
- Tax Advisor

Tellers (SOC 43-3071): Receive and pay out money. Keep records of money and negotiable instruments involved in a financial institution's various transactions. Sample job titles include:

- Bank Teller
- Personal Banking Representative
- Member Services Representative
- Financial Services Representative
- Customer Service Associate
- Account Representative

ENERGY, CONSTRUCTION & UTILITIES

Civil Engineering Technicians (SOC 17-3022): Apply theory and principles of civil engineering in planning, designing, and overseeing construction and maintenance of structures and facilities under the direction of engineering staff or physical scientists. Sample job titles include:

- Transportation Engineering Technician
- Engineering Specialist
- Engineering Assistant
- Civil Engineering Designer

First-Line Supervisors of Construction Trades and Extraction Workers (SOC 47-1011): Directly supervise and coordinate activities of construction or extraction workers. Sample job titles include:

- Construction Supervisor
- Field Supervisor
- Welding Foreman
- Solar Installation Supervisor
- Construction Foreman
- Residential Field Manager

Heating, Air Conditioning, and Refrigeration Mechanics and Installers (SOC 49-9021): Install or repair heating, central air conditioning, or refrigeration systems, including oil burners, hot-air furnaces, and heating stoves. Sample job titles include:

- Refrigeration Mechanic
- Service Technician
- HVAC Technician
- HVAC Installer
- Transportation Refrigeration Technician

EDUCATION & HUMAN DEVELOPMENT

Childcare Workers (SOC 39-9011): Attend to children at schools, businesses, private households, and childcare institutions. Perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play. Sample job titles include:

- Babysitter
- Child Care Assistant
- Daycare Provider
- Nanny
- Childcare Professional
- Child Care Attendant

Preschool Teachers, Except Special Education (SOC 25-2011): Instruct preschool-aged children in activities designed to promote social, physical, and intellectual growth needed for primary school in preschool, day care center, or other child development facility. Substitute teachers are included in 'Teachers and Instructors. Sample job titles include:

- Pre-Kindergarten Teacher
- Head Start Teacher
- Day Care Teacher
- Preschool Teacher
- Nursery Teacher
- Toddler Teacher

Special Education Teachers, Preschool (SOC 25-2051): Teach preschool school subjects to educationally and physically handicapped students. Includes teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired. Sample job titles include:

- Early Childhood Special Education Teacher
- Early Interventionist
- Exceptional Student Education Teacher
- Resource Teacher
- Teacher of the Handicapped

PUBLIC SAFETY

Detectives and Criminal Investigators (SOC 33-3021): Conduct investigations related to suspected violations of Federal, State, or local laws to prevent or solve crimes. Sample job titles include:

- Special Agent
- Crime Scene Investigator
- Crime Lab Analyst
- FBI Special Agent
- Customs and Border Protection Officer
- Intelligence Officer

Firefighters (SOC 33-2011): Control and extinguish fires or respond to emergency situations where life, property, or the environment is at risk. Duties may include fire prevention, emergency medical service, hazardous material response, search and rescue, and disaster assistance. Sample job titles include:

- Fire Engineer
- Volunteer Firefighter
- Safety Officer
- Wildland Firefighter
- Forestry Fire Technician
- Forest Fire Suppression Specialist

First-Line Supervisors of Correctional Officers (SOC 33-1011): Directly supervise and coordinate activities of correctional officers and jailers. Sample job titles include:

- Corrections Sergeant
- Correctional Officer Sergeant
- Correctional Case Manager
- Unit Manager
- Shift Supervisor
- Shift Commander

First-Line Supervisors of Fire Fighting and Prevention Workers (SOC 33-1021): Directly supervise and coordinate activities of workers engaged in firefighting and fire prevention and control. Sample job titles include:

- Fire Marshal
- Fire Captain
- Battalion Chief
- Training Officer
- Incident Commander
- Section Forest Fire Warden

First-Line Supervisors of Police and Detectives (SOC 33-1012): Directly supervise and coordinate activities of members of police force. Sample job titles include:

- Sergeant
- Police Chief
- Police Captain
- Lieutenant
- Chief of Police
- Police Shift Commander

Police and Sheriff's Patrol Officers (SOC 33-3051): Maintain order and protect life and property by enforcing local, tribal, State, or Federal laws and ordinances. Perform a combination of the following duties: patrol a specific area; direct traffic; issue traffic summonses; investigate accidents; apprehend and arrest suspects, or serve legal processes of courts. Sample job titles include:

- State Trooper
- Public Safety Officer
- Peace Officer
- Sheriffs Officer
- Police Officer
- Patrol Officer