



You have recently completed the
COPSystem Inventories.
This Guide is designed to assist
you in planning your career.

Using your COPSystem Summary, select three career clusters below that you wish to consider. Except for the Clerical, Outdoor and Communication occupational areas, scores are presented first for professional occupations, usually those requiring college training and often advanced degrees, and second for skilled occupations requiring vocational or on-the-job training in which a college degree may not be needed.

Sometimes scores in certain areas will be high for both the Professional and Skilled scales. This

means that occupations at various levels of training and responsibility might be equally satisfying. Your choice of occupation might be based on availability of jobs and training at various levels. In some cases, skilled level occupations may be used for entry to the professional level.

If your scores are not high in any group, it may be because you have not had an opportunity to develop interest in certain groups. Reading and talking with a counselor or instructor may help you to find those occupations of greatest interest to you.

WORK VALUES MEASURED BY THE COPEs

INVESTIGATIVE vs ACCEPTING: Scorers to the right of this scale value intellectual curiosity and the challenge of solving a complex task. Scorers to the left value clear-cut activities and seeing concrete results.

PRACTICAL vs CAREFREE: Scorers to the right of this scale value showing proper appreciation for one's personal belongings and appreciation of practical and efficient ways of doing things. Scorers to the left value activities where others take care of equipment and keep things in good working order.

INDEPENDENCE vs CONFORMITY: Scorers to the right of this scale value independence from rules, and the freedom to work on their own. Scorers to the left value working under careful supervision where clear directions can be followed.

LEADERSHIP vs SUPPORTIVE: Scorers to the right value making decisions and directing others. Scorers to the left of this scale value activities in which they can be a good follower and do not need to tell others what to do.

ORDERLINESS vs FLEXIBILITY: Scorers to the right of this scale value orderliness and keeping things neat and in their proper place. Scorers to the left value activities in which they can take things as they come and do not need to keep things orderly and neat.

RECOGNITION vs PRIVACY: Scorers to the right of this scale value becoming well known and famous. Scorers to the left value keeping their activities private.

AESTHETIC vs REALISTIC: Scorers to the right value showing artistic appreciation and emotional sensitivity. Scorers to the left of this scale value activities in which they do not rely on their aesthetic senses or intuition.

SOCIAL vs RESERVED: Scorers to the right value helping others and working with many other people. Scorers to the left value activities in which they spend time on their own projects rather than helping others.



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1 SCIENCE, PROFESSIONAL occupations involve responsibility for the planning and conducting of research. They include collecting and applying systematic accumulation of knowledge in the related branches of mathematical, medical, life and physical sciences. (See sample occupations below.)

Related courses of study: **SCIENCE** - Anatomy, Anthropology, Astronomy, Biology, Chemistry, Geography, Physics, Psychology, Sciences (General, Life, Marine and Physical), Zoology **MATHEMATICS** - Algebra, Calculus, Computer Science, Data-Processing Math, Geometry, Trigonometry **LANGUAGE** - French, German, Latin

Medical-Life Science

AGRICULTURAL SCIENTIST (19-1013.00)*
ALLERGIIST (29-1069.01)
ANESTHESIOLOGIST (29-1061.00)
ANTHROPOLOGIST (19-3091.01)
AUDIOLOGIST (29-1181.00)
BIOCHEMICAL ENGINEER (17-2199.01)
BIOCHEMIST (19-1021.00)
BIOINFORMATICS SCIENTIST (19-1029.01)
BIOLOGIST (19-1020.01)
BIOMEDICAL ENGINEER (17-2031.00)
BIOPHYSICIST (19-1021.00)
CARDIOLOGIST (29-1069.00)
CORONER (13-1041.06)
CYTOGENETIC TECHNOLOGIST (29-2011.01)
EMBRYOLOGIST (19-1099.00)
EPIDEMIOLOGIST (19-1041.00)
FLIGHT SURGEON (29-1063.00)
FOOD SCIENTIST (19-1012.00)
GENETICIST (19-1029.03)
MARINE BIOLOGIST (19-1023.00)
MEDICAL SCIENTIST (19-1042.00)
MICROBIOLOGIST (19-1022.00)
MOLECULAR BIOLOGIST (19-1029.02)
MYCOLOGIST (19-1020.01)

NEUROLOGIST (29-1069.04)
NEUROPSYCHOLOGIST (19-3039.01)
NUCLEAR MEDICINE PHYSICIAN (29-1069.05)
OPHTHALMOLOGIST (29-1069.06)
ORAL & MAXILLOFACIAL SURGEON (29-1022.00)
ORTHOTIST (29-1199.05)
PARASITOLOGIST (19-1042.00)
PATHOLOGIST (29-1069.07)
PHYSIOLOGIST (19-1020.01)
PLANT SCIENTIST (19-1013.00)
PROSTHODONTIST (29-1024.00)
PSYCHOLOGIST, EXPERIMENTAL (19-3031.02)
RADIOLOGIST (29-1069.10)
SURGEON (29-1067.00)
SURGICAL ASSISTANT (29-2099-07)
UROLOGIST (29-1069.12)
VETERINARIAN (29-1131.00)
WILDLIFE BIOLOGIST (19-1023.00)
ZOOLOGIST (19-1023.00)
Mathematical Science
ACTUARY (15-2011.00)
BIOINFORMATICS TECH. (43-9011-01)
BIOSTATISTICIAN (15-2041.01)
CLINICAL DATA MANAGER (15-2041.02)
CLINICAL RESEARCH COORDINATOR (11-9121.01)

COMPUTER & INFO. SCI., RESEARCH (15-1111.00)
COMPUTER INFO. SYSTEMS MANAGER (11-3021.00)
COMPUTER PROGRAMMER (15-1131.00)
COMPUTER SOFTWARE ENGINEER (15-1133.00)
DATABASE ADMINISTRATOR (15-1141.00)
DATABASE ARCHITECT (15-1199.06)
FINANCIAL ANALYST (13-2051.00)
MATHEMATICAL TECHNICIAN (15-2091.00)
MATHEMATICIAN (15-2021.00)
OPERATIONS RESEARCH ANALYST (15-2031.00)
STATISTICIAN, APPLIED (15-2041.00)
STATISTICIAN, MATHEMATICS (15-2041.00)
STATISTICIAN, PHYSICAL SCIENCE (15-2041.00)
SURVEY RESEARCHER (19-3022.00)
SYSTEMS ANALYST (COMPUTER) (15-1121.00)
Physical Science
ARCHEOLOGIST (19-3091.02)
ASTRONOMER (19-2011.00)
ATMOSPHERIC SCIENTIST (19-2021.00)
CHEMIST (19-2031.00)
CLIMATE CHANGE ANALYST (19-2041.01)
CONSERVATION SCIENTIST (19-1031.00)
ENVIRONMENTAL ECONOMIST (19-3011.01)
ENVIRONMENTAL SCI. (ECOLOGIST) (19-2041.00)
ENVIRON. PROTECTION SCIENTIST (19-4091.00)

GEODETIC SURVEYOR (17-1022.01)
GEOGRAPHER (19-3092.00)
GEOLOGIST (19-2042.00)
GEOSCIENTIST (19-2042.00)
GEOSPATIAL INFORMATION SCIENTIST (15-1199.04)
HYDROLOGIST (19-2043.00)
INDUSTRIAL ECOLOGIST (19-2041.03)
MATERIAL SCI. (INORGANIC CHEM.) (19-2032.00)
METEOROLOGIST (19-2021.00)
NANOSYSTEMS ENGINEER (17-2199.09)
NATURAL SCIENCES MANAGER (11-9121.00)
NUCLEAR ENGINEER (17-2161.00)
OCEANOGRAPHER (19-1020.01)
PALEONTOLOGIST (19-2042.00)
PHARMACIST (29-1051.00)
PHOTONICS ENGINEER (17-2199.07)
PHYSICIST (19-2012.00)
QUALITY CONTROL ANALYST (19-4099.01)
QUALITY CONTROL SYSTMS MGR. (11-3051.01)
REMOTE SENSING SCIENTIST (19-2099.01)
SOIL SCIENTIST (19-1013.00)
VALIDATION ENGINEER (17-2199.02)
WATER RESOURCE SPECIALIST (11-9121.02)

Some skills and abilities needed in these jobs

- Use logic or scientific thinking to deal with many different kinds of problems
- Make decisions based on information that can be measured or verified
- Learn and use knowledge about how living things function, how plants and animals are classified, how to use laboratory and scientific equipment
- Understand and apply instructions that use words, numbers, diagrams, or chemical formulas
- Do things requiring you to be very accurate
- Use non-verbal symbols (such as numbers) to express ideas or solve problems
- Understand and express complex, technical, and scientific information
- Understand and use advanced math and statistics
- Use computer technology to solve problems or process large amounts of information
- Make decisions using your own reasoning
- Deal with things known and things which frequently are not easy to recognize or understand

Related Career Areas: Health Science; Information Technology; Science, Technology, Engineering & Mathematics. **Work Groups:** Scientific, Physical Sciences, Life Sciences, Medical Sciences. **Leading - Influencing, Mathematics and Statistics, Social Research.**

2 SCIENCE, SKILLED occupations involve observing and classifying facts in assisting in laboratory research and applying this information in the fields of medicine and life and physical sciences. (See sample occupations below.)

Related courses of study: **SCIENCE** - Biology, Chemistry, Geography, Science (General, Life and Physical) **MATHEMATICS** - Computer Literacy, Math

Medical-Life Science

BIOLOGICAL TECHNICIAN (19-4021.00)*
CARDIOVASCULAR TECHNICIAN (29-2031.00)
CLINICAL LABORATORY TECHNOLOGIST (29-2011.00)
CYTOTECHNOLOGIST (29-2011.02)
DENTAL ASSISTANT (31-9091.00)
DENTAL HYGIENIST (29-2021.00)
DENTAL LABORATORY TECHNICIAN (51-9081.00)
DIAGNOSTIC MEDICAL SONOGRAPHER (29-2032.00)
ELECTRONEURODIAGNOSTIC TECH. (29-2099.01)
EMBALMER (39-4011.00)
ENDOSCOPY TECHNICIAN (31-9099.02)
HEALTH TECHNOLOGIST (29-2099.00)
HISTOTECHNOLOGIST (29-2011.03)
MRI TECH. (29-2035.00)
MEDICAL APPLIANCE TECHNICIAN (51-9082.00)
MEDICAL ASSISTANT (31-9092.00)
MEDICAL EQUIPMENT PREPARER (31-9093.00)
MEDICAL LABORATORY TECHNICIAN (29-2012.00)
MEDICAL TECHNOLOGIST (29-2011.00)
NUCLEAR MEDICINE TECHNOLOGIST (29-2033.00)
NUCLEAR MONITORING TECHNICIAN (19-4051.02)

OPTICIAN, DISPENSING (29-2081.00)
OPHTHALMIC LAB TECHNICIAN (51-9083.00)
OPHTHALMIC MEDICAL TECHNICIAN (29-2057.00)
OPHTHALMIC MEDICAL TECHNOLOGIST (29-2099.05)
PHLEBOTOMIST (31-9097.00)
RADIATION THERAPIST (29-1124.00)
RADIOLOGIC TECHNICIAN (29-2099.06)
RADIOLOGIC TECHNOLOGIST (29-2034.00)
RESPIRATORY THERAPIST (29-1126.00)
RESPIRATORY THERAPY TECH. (29-2054.00)
SURGICAL TECHNOLOGIST (29-2055.00)
Physical Science
ARTILLERY SPECIALIST (MILITARY) (55-3014.00)
ASSAYER (19-4031.00)
BIOFUELS PROCESSING TECHNICIAN (51-8099.01)
BIOFUELS PRODUCTION MANAGER (11-3051.03)
BIOFUELS TECHNOLOGY MANAGER (11-9041.01)
BIOMASS PLANT TECHNICIAN (51-8099.03)
BIOMASS PRODUCTION MANAGER (11-3051.04)
BROWNFIELD REDEVELOPMENT SPEC. (11-9199.11)
CALIBRATION & INSTRUMENT. TECH. (17-3023.01)
CARTOGRAPHER (17-1021.00)

CHEMICAL PLANT OPERATOR (51-8091.00)
CHEMICAL TECHNICIAN (19-4031.00)
CITY PLANNING AIDE (19-4061.01)
CRIME SCENE INVESTIGATOR (33-3021.02)
ENVIRON. COMPLIANCE INSPECTOR (13-1041.01)
ENVIRONMENTAL ENGINEERING TECH. (17-3025.00)
ENVIRONMENTAL PROTECTION TECH. (19-4091.00)
FORENSIC SCIENCE TECHNICIAN (19-4092.00)
GAS GENERATION SYSTEM TECHNICIAN (51-8099.02)
GAS PLANT OPERATOR (51-8092.00)
GEOGRAPHIC INFO. SYSTEMS TECH. (15-1199.05)
GEOLOGICAL SAMPLE TEST TECH. (19-4041.02)
GEOPHYSICAL DATA TECHNICIAN (19-4041.01)
HAZARDOUS MATERIALS REMOVER (47-4041.00)
HEALTH AND SAFETY MANAGER (29-9011.00)
HYDROELECTRIC PLANT TECHNICIAN (51-8099.04)
INDUSTRIAL ENGINEERING TECHNICIAN (17-3026.00)
INSPECTOR, INSTRUMENT (51-9061.00)
IRRADIATED-FUEL HANDLER (47-4041.00)
MECHANICAL INSPECTOR (51-9061.00)
METER READER (43-5041.00)
NANOTECHNOLOGY ENG. TECHNICIAN (17-3029.12)

NANOTECH. ENG. TECHNOLOGIST (17-3029.11)
NUCLEAR PLANT TECHNICIAN (19-4051.01)
NUCLEAR POWER REACTOR OPERATOR (51-8011.00)
NUCLEAR TECHNICIAN (19-4051.00)
OCCUPATIONAL HEALTH & SAFETY SPEC. (29-9011.00)
OCCUPA. HEALTH & SAFETY TECH. (29-9012.00)
PEST CONTROLLER (37-2021.00)
PETROLEUM TECHNICIAN (19-4041.00)
PHARMACY AIDE (31-9095.00)
PHARMACY TECHNICIAN (29-2052.00)
PHOTONICS TECHNICIAN (17-3029.08)
POWER DISTRIBUTOR (51-8012.00)
POWER PLANT OPERATOR (51-8013.00)
RECYCLING WORKER (51-9199.01)
REMOTE SENSING TECHNICIAN (19-4099.03)
SOCIAL SCIENCE RESEARCH ASSISTANT (19-4061.00)
SURVEYING TECHNICIAN (17-3031.01)
SURVEYOR (17-1022.00)
SUSTAINABILITY SPECIALIST (13-1199.05)
WATER TREATMENT PLANT OPERATOR (51-8031.00)

Some skills and abilities needed in these jobs

- Use eyes, hands and fingers to operate and adjust delicate equipment and handle gauges or measuring tools
- Follow technical instructions which may be verbal, written, or in the form of charts or drawings
- Make quick accurate and precise movements
- Avoid errors in record keeping
- Use mathematics and software programs to keep records, take inventory, estimate quantities, or schedule the flow of materials
- Use measuring and testing equipment
- Make decisions based on standards that can be measured or checked
- Recognize slight differences in the shape, color or texture of things
- Do the same thing over and over according to a set procedure
- Learn all about the product or structure you may inspect or test
- Understand and use scientific and technical language and symbols

Related Career Areas: Science, Technology, Engineering, & Mathematics. **Work Groups:** Scientific, Laboratory Technology. **Mechanical, Quality Control, Crafts—Environmental; Material Control—Verifying, Recording and Marking. Industrial, Quality Control.**

1 & 2 SCIENCE, COLLEGE MAJORS:

Medical-Life

Agronomy
Anatomy
Anthropology
Biology
Aquatic
Cell
Molecular
Marine
Biochemistry
Botany

Dentistry
Assistant
Hygienist
Lab. Tech.
Dietetics
Ecology
Entomology
Environ. Health
Forensic
Technology

Genetics
Medical
Lab. Tech.
Microbiology
Nutrition
Technology
Neuroscience
Organic Chem.
Pathology
Paleontology

Pharmacology
Physiology
Psychology
Radiological Sci.
Toxicology
Veterinary
Sciences
Technician
Technology
Zoology

Mathematical Science

Actuarial Science
Applied Math.
Artificial
Intel./Robotics
Computer
Programming
Science
Economics
Econometric
Quantitative

Information
Science
Mathematics
Operations
Research
Physical
Science
Statistics
Systems Science
and Theory

Physical Science

Archeology
Astronomy
Astrophysics
Chemistry
Earth & Planetary
Science
Environmental Bio.
Geography
Geology
Metallurgy
Meteorology
Oceanography
Pharmacy
Physics
Water Tech.
Plant Genetics
Plant Pathology
Plant Protection
Soil Sciences
Solar Tech.

NOTE: See page 2 for footnotes describing where to find additional sources of information.

3

TECHNOLOGY, PROFESSIONAL occupations involve responsibility for engineering and structural design in the manufacture, construction or transportation of products or utilities. (See sample occupations below.)



Related courses of study: **MATHEMATICS** - Algebra, Calculus, Computer Programming, Computer Science, Data-Processing Math, Geometry, Trigonometry **INDUSTRIAL TECHNOLOGY** - AutoShop, Drafting, Graphics, Industrial Design, Metalshop, Radio-Electronics **SCIENCE** - Chemistry, Engineering (Electrical, Mechanical, Chemical), General Science, Physics

Aeronautical-Marine

AEROSPACE ENGINEER (17-2011.00)*
AEROSPACE ENG. & OPER. TECH. (17-3021.00)
AIRPLANE (COMMERCIAL) PILOT (53-2012.00)
ARCHITECT, MARINE (17-2121.02)
ASTRONAUTICAL ENGINEER (17-2011.00)
FLIGHT ENGINEER (53-2011.00)
FLIGHT INSTRUCTOR (53-2011.00)
HELICOPTER PILOT (53-2012.00)
HYDROELECTRIC PRODUCTION MGR. (11-3051.06)
MARINE ENGINEER (17-2121.01)
NAVIGATOR (53-2011.00)
PROCUREMENT ENGINEER (13-1023.00)

Civil-Construction

CIVIL DRAFTER (17-3011.02)
CIVIL ENGINEER (17-2051.00)
CIVIL ENGINEERING TECHNICIAN (17-3022.00)
CONSTRUCTION ENGINEER (17-2051.00)
DRAFTER, MECHANICAL (17-3013.00)
DRAFTER, STRUCTURAL (17-3011.01)
DRAINAGE-DESIGN ENGINEER (17-2051.00)

ENERGY ENGINEER (17-2199.03)
ENGINEERING MANAGER (11-9041.00)
ENVIRONMENTAL ENGINEER (17-2081.00)
HYDRAULIC ENGINEER (17-2051.00)
IRRIGATION ENGINEER (17-2081.01)
MINING ENGINEER (17-2151.00)
MINING SAFETY ENGINEER (17-2151.00)
SANITARY ENGINEER (17-2081.00)
TRANSPORTATION ENGINEER (17-2051.01)
TRANSPORTATION PLANNER (19-3099.01)
WATERWORKS ENGINEER (17-2081.00)
WIND ENERGY PROJECT MANAGER (11-9199.10)

Electrical

COMPUTER HARDWARE ENGINEER (17-2061.00)
COMPUTER NETWORK SUPPORT SPEC. (15-1152.00)
COMPUTER SECURITY SPECIALIST (15-1122.00)
COMPUTER SUPPORT SPECIALIST (15-1151.00)
COMPUTER SYSTEMS ENGINEER (15-1199.02)
DATA COMMUNICATIONS ANALYST (15-1143.00)
DRAFTER, ELECTRICAL (17-3012.02)
DRAFTER, ELECTRONIC (17-3012.01)

ELECTRICAL ENGINEER (17-2071.00)
ELECTRO-MECHANICAL TECHNICIAN (17-3024.00)
ELECTRONICS ENGINEER (17-2072.00)
ENGINEER, SYSTEM DEVELOPMENT (17-2071.00)
INTERNET DEVELOPER (15-1134.00)
MECHATRONICS ENGINEER (17-2199.05)
MICROSYSTEMS ENGINEER (17-2199.06)
NETWORK DESIGNER (15-1143.00)
NETWORK SYSTEMS ADMINISTRATOR (15-1142.00)
RADIO FREQ. IDENTIFI. DEVICE SPEC. (17-2072.01)
SOFTWARE ENGINEER (15-1133.00)
SOFTWARE ENGINEER, APPLICATIONS (15-1132.00)
TECHNICAL MANAGER (27-2012.05)
VIDEO GAME DESIGNER (15-1199.11)
WEB ADMINISTRATOR (15-1199.03)
WEB DEVELOPER (15-1134.00)

Mechanical-Chemical

AUTOMOTIVE ENGINEER (17-2141.02)
AUTOMOTIVE ENGINEERING TECH. (17-3027-01)
CHEMICAL ENGINEER (17-2041.00)

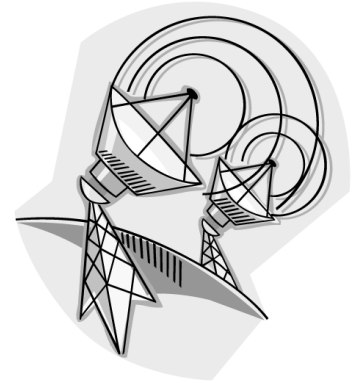
DIE DESIGNER (17-3013.00)
FIRE PREVENTION & PROTECTION ENG. (17-2111.02)
FUEL CELL ENGINEER (17-2141.01)
GEOTHERMAL PRODUCTION MGR. (11-3051.02)
HEALTH & SAFETY ENGINEER (17-2111.01)
HIGHWAY MAINTENANCE SUPERVISOR (47-1011.00)
HUMAN FACTORS ENGINEER (17-2112.01)
INDUSTRIAL ENGINEER (17-2112.00)
INDUSTRIAL SAFETY ENGINEER (17-2111.01)
MANUFACTURING ENGINEER (17-2199.04)
MATERIALS ENGINEER (17-2131.00)
MECHANICAL ENGINEER (17-2141.00)
PETROLEUM ENGINEER (17-2171.00)
PLANT ENGINEER (11-9041.00)
PRODUCT SAFETY ENGINEER (17-2111.03)
ROBOTICS ENGINEER (17-2199.08)
SALES ENGINEER (41-9031.00)
SOLAR ENERGY SYSTEMS ENGR. (17-2199.11)
TOOL PROGRAMMER (51-4012.00)
WIND ENERGY ENGINEER (17-2199.10)
WIND ENERGY OPERATIONS MGR. (11-9199.09)

Some skills and abilities needed in these jobs

- Use logic, high level math, or scientific thinking to deal with problems
- Make decisions based on information that can be measured or verified
- Make decisions and solve problems using facts and personal reasoning
- Plan & direct work of others
- Understand principles of chemistry & related sciences
- Do detailed work very accurately
- Use non-verbal symbols to express ideas
- Understand technology and express complex information
- Make hand movements correspond with seeing, to operate equipment, instruments, and tools

Suggested activities to get experience

Make & operate models of planes, boats, cars, or trains
Read mechanics, air, boat and computer magazines
Make a radio; build a computer
Repair a bicycle, clock, or other appliance
Enter science fairs
Work part-time in a garage/machine shop or construction site



Related Career Areas: Architecture & Construction; Information Technology; Manufacturing; Science, Technology, Engineering & Mathematics. **Work Groups:** Mechanical, Engineering, Managerial Work: Mechanical, Engineering Technology, Air and Water Vehicle Operation.

4

TECHNOLOGY, SKILLED occupations involve working with one's hands in a skilled trade concerned with construction, manufacture, installation, or repair of products in related fields of construction, electronics, and mechanics. (See sample occupations below.)



Related courses of study: **INDUSTRIAL TECHNOLOGY** - Auto Mechanics, Construction Trades, Crafts, Graphics, Metalshop, Radio-Electronics, Welding **MATHEMATICS** - Math, Practical and Consumer Math, Computer Technology **SCIENCE** - Physical Science

Construction

BLACKSMITH (51-4022.00)*
BLASTER (47-5031.00)
BLOCKMASON ASSISTANT (47-3011.00)
BOATBUILDER (47-2031.01)
BRICKMASON (47-2021.00)
BUILDING INSPECTOR (47-4011.00)
CABINETMAKER (51-7011.00)
CARPENTER (47-2031.00)
CEMENT AND CONCRETE MASON (47-2051.00)
CEMENTING MACHINE OPER. (47-2061.00)
CONSTRUCTION INSPECTOR (47-4011.00)
CONSTRUCTION LABORER (47-2061.00)
CONSTRUCTION MACHINERY OPER. (47-2073.00)
CONSTRUCTION MANAGER (11-9021.00)
DRAFTER (17-3011.01)
DRYWALL & CEILING TILE INSTALLER (47-2081.00)
ELEVATOR INSTALLER (47-4021.00)
FENCE ERECTOR (47-4031.00)
FLOOR LAYER (47-2042.00)
FLOOR SANDER & FINISHER (47-2043.00)
GAS COLLECTION SYS. OPER. (11-3051.05)
GAS METER INSTALLER (49-9012.00)
GLAZIER (47-2121.00)
HIGHWAY MAINTENANCE WORKER (47-4051.00)
HOUSE BUILDER (47-2031.01)
INSULATION WORKER (47-2131.00)
JACKHAMMER OPERATOR (47-2061.00)
LATHER (51-4034.00)
LAYOUT MECHANIC (51-4192.00)
MECHANICAL DOOR REPAIRER (49-9011.00)
MOBILE HOME INSTALLER (49-9095.00)
MODEL MAKER, WOOD (51-7031.00)
PAINTER (47-2141.00)
PAPERHANGER (47-2142.00)

PILE-DRIVER OPERATOR (47-2072.00)
PIPEFITTER (47-2152.01)
PIPELAYER (47-2151.00)
PLASTERER & STUCCO MASON (47-2161.00)
PLUMBER (47-2152.02)
REFRACTORY MATERIALS REPAIRER (49-9045.00)
REINFORCING IRON/REBAR WORKER (47-2171.00)
ROOFER (47-2181.00)
ROOFER HELPER (47-3016.00)
ROUGH CARPENTER (47-2031.02)
SANITARY LANDFILL OPER. (47-2073.00)
SEGMENT PAVER (47-4091.00)
SEPTIC TANK SERV. & SEWER PIPE CLEANER (47-4071.00)
SOLAR ENERGY INSTALLATION MANAGER (47-1011.03)
SPRINKLER, STEAMFITTER HELPER (47-3015.00)
STONEMASON (47-2022.00)
STRUCTURAL METAL WORKER (47-2221.00)
STUCCO MASON ASSISTANT (47-3014.00)
TAPER (47-2082.00)
TERRAZZO WORKER AND FINISHER (47-2053.00)
TILE & MARBLE SETTER (47-2044.00)
WATER METER INSTALLER (49-9012.00)
WEATHERIZATION TECHNICIAN (47-4099.03)

Electrical

APPLIANCE REPAIRER (49-9031.00)
AUDIO-VIDEO REPAIRER (49-2097.00)
AUTO. TELLER MACH. (ATM) SERVICER (49-2011.00)
AVIONICS TECHNICIAN (49-2091.00)
BROADCAST TECHNICIAN (27-4012.00)
CABLE SPLICER/INSTALLER (49-9052.00)
CAMERA & PHOTO. EQUIP. REPAIRER (49-9061.00)
CELLULAR AND TOWER INSTALLER (49-2021.00)
COIL WINDER (51-2021.00)
COMPUTER, OFFICE MACH. REPAIRER (49-2011.00)
DATA WAREHOUSING SPECIALIST (15-1199.07)
ELECTRIC MOTOR REPAIRER (49-2092.00)
ELECTRIC TOOL REPAIRER (49-2092.00)
ELECTRICAL ENGINEERING TECHNICIAN (17-3023.03)
ELECTRICAL ENG. TECHNOLOGIST (17-3029.02)
ELECTRICAL PARTS RECONDITIONER (49-2092.00)
ELECTRICAL REPAIRER (49-2095.00)
ELECTRICIAN (47-2111.00)
ELECTRICIAN, POWERHOUSE (49-2095.00)
ELECTROMECHANICAL ENG. TECH. (17-3029.03)
ELECTROMECH. EQUIP. ASSEMBLER (51-2023.00)
ELECTRONIC DRAFTER (17-3012.01)
ELECTRONICS ASSEMBLER (51-2022.00)
ELECTRONICS ENGINEERING TECH. (17-3029.04)
ELECTRONICS ENGINEERING TECH. (17-3023.01)
ELECTRONICS EQUIPMENT INSTALLER (49-2096.00)
ELECTRONICS INSTALLER, TRANSPORT. (49-2093.00)
ELECTRONICS REPAIRER (49-2094.00)
LINE INSPECTOR (49-9052.00)
LINE INSTALLER-REPAIRER (49-9051.00)
MAINTENANCE ELECTRICIAN (47-2111.00)
MEDICAL EQUIPMENT REPAIRER (49-9062.00)
MOTION PICTURE PROJECTIONIST (39-3021.00)
PLATER (51-4193.00)

RADAR & SONAR TECH. (MILITARY) (55-3017.00)
RADIO MECHANIC (49-2021.01)
RADIO OPERATOR (27-4013.00)
RECORDING MIXER (27-4014.00)
SECURITY & FIRE ALARM SYS. INSTAL. (49-2098.00)
SEMICONDUCTOR PROCESSOR (51-9141.00)
SOLAR PHOTOVOLTAIC INSTALLER (47-2231.00)
SOLAR THERMAL TECHNICIAN (47-4099.02)
SOUND ENGINEERING TECHNICIAN (27-4014.00)
TELECOM. EQUIP. INSTALLER/REPAIRER (49-2022.00)
TELECOMMUNICATIONS SPECIALIST (15-1143.01)
TELEVISION SERVICE REPAIRER (49-2097.00)
VIDEO & AUDIO EQUIPMENT TECHNICIAN (27-4011.00)
VIDEO GAME SYSTEM REPAIRER (49-2097.00)

* The number in parenthesis is the O*NET™ Version 20.1 code. For a complete description of this code, see <http://www.onetcenter.org/>.
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Occupations may be looked up alphabetically in the *Occupational Outlook Handbook* at <http://www.bls.gov/oco/>.

TECHNOLOGY Skilled, Continued

Mechanical

AIR-CONDITIONING MECHANIC (49-9021.01)
 AIRCRAFT CARGO HANDLING SUPER. (53-1011.00)
 AIRCRAFT (AIRFRAME) MECHANIC (49-3011.00)
 AIRFIELD OPERATIONS SPECIALIST (53-2022.00)
 ASSEMBLER (51-2092.00)
 ASSEMBLER, AIRCRAFT STRUCTURE (51-2011.00)
 AUTOMOTIVE BODY REPAIRER (49-3021.00)
 AUTOMOTIVE GLASS INSTALLER (49-3022.00)
 AUTOMOTIVE MECHANIC (49-3023.00)
 AVIATION INSPECTOR (53-6051.01)
 BICYCLE REPAIRER (49-3091.00)
 BINDERY WORKER (51-5113.00)
 BOILER OPERATOR (51-8021.00)
 BOILERMAKER (47-2011.00)
 BOOKBINDER (51-5113.00)
 BRAKER, RAILROAD (53-4021.00)
 BRAZER (51-4121.07)
 BULLDOZER, GRADER OPERATOR (47-2073.00)
 BUS & TRUCK MECHANIC (49-3031.00)
 CABLE PULLER (47-3013.00)
 CHEMICAL EQUIPMENT OPERATOR (51-9011.00)
 COIN-MACHINE REPAIRER (49-9091.00)
 COMPUTER CONTROL TOOL OPERATOR (51-4011.00)
 CONVEYOR OPERATOR (53-7011.00)
 CRANE OPERATOR (53-7021.00)
 DELIVERY TRUCK DRIVER (53-3033.00)
 DIESEL MECHANIC (49-3031.00)
 DRILL-PUNCH OPERATOR (51-4031.00)
 DRILLER, MACHINE (51-4032.00)
 ELECTROPLATER (51-4193.00)
 ENERGY AUDITOR (13-1199.01)
 EXCAVATING DRAGLINE OPERATOR (53-7032.00)
 EXTRACTION WORKER (47-5081.00)
 EXTRUDING MACHINE OPERATOR (51-4021.00)
 EXTRUDING MACHINE SETTER (51-6091.00)
 FARM EQUIPMENT MECHANIC (49-3041.00)
 FIBERGLASS LAMINATOR (51-2091.00)
 FORGING PRESS METAL WORK OPER. (51-4022.00)
 FOUNDRY WORKER, GENERAL (51-4071.00)
 FREIGHT INSPECTOR (53-6051.08)

FUEL CELL TECHNICIAN (17-3029.10)
 FURNACE OPERATOR (51-4051.00)
 GAS PUMPING STATION OPERATOR (53-7071.00)
 GEOTHERMAL TECHNICIAN (49-9099.01)
 GRINDING/POLISHING TOOL SETTER (51-4033.00)
 GRIP (49-9096.00)
 HEATING & REFRIGERATION MECHANIC (49-9021.00)
 HEATING EQUIPMENT OPERATOR (51-4191.00)
 HEAVY EQUIPMENT OPERATOR (47-2073.00)
 HOIST OPERATOR (53-7041.00)
 INDUSTRIAL ENG. TECHNOLOGIST (17-3029.05)
 INDUSTRIAL MACHINE MECHANIC (49-9041.00)
 INDUSTRIAL TRUCK/TRACTOR OPER. (53-7051.00)
 INJECTION MOLDER (51-9195.07)
 JOB PRINTER (51-5112.00)
 KILN OPERATOR (51-9051.00)
 LABORER & FREIGHT STOCK MOVER (53-7062.00)
 LAYOUT WORKER (51-4192.00)
 LOCKSMITH (49-9094.00)
 LOCOMOTIVE ENGINEER (53-4011.00)
 LOCOMOTIVE FIRER (53-4012.00)
 LONGSHOREMAN (53-7062.00)
 MACHINE TOOL OPERATOR (51-4081.00)
 MACHINIST (51-4041.00)
 MAINTENANCE WORKER (49-9043.00)
 MANUFACTURING ENGINEERING TECH. (17-3029.06)
 MANUFACTURING PRODUCTION TECH. (17-3029.09)
 MASTER MECHANIC (49-3023.01)
 MECHANICAL DRAFTER (17-3013.00)
 MECHANICAL ENGINEERING TECH. (17-3027.00)
 MECH. ENGINEERING TECHNOLOGIST (17-3029.07)
 MECHANICAL INSULATION WORKER (47-2132.00)
 METAL CASTER (51-4052.00)
 METAL FABRICATOR/FITTER (51-2041.00)
 MICROWAVE EXTRUDER OPERATOR (51-9041.00)
 MILL OPERATOR (51-4035.00)
 MILLWRIGHT (49-9044.00)
 MODEL MAKER, METAL & PLASTIC (51-4061.00)
 MOLDER (51-9195.00)
 MOTORBOAT MECHANIC (49-3051.00)
 MOTORCYCLE MECHANIC (49-3052.00)

MUSICAL INSTR. TUNER/REPAIRER (49-9063.00)
 NON-DESTRUCTIVE TESTING SPEC. (17-3029.01)
 OPERATING ENGINEER (47-2073.00)
 PACKING/FILLING MACHINE OPERATOR (51-9111.00)
 PAINTER, AUTOMOBILE (51-9122.00)
 PATTERNMAKER, METAL (51-4062.00)
 PATTERNMAKER, WOOD (51-7032.00)
 PLASTICS FABRICATOR (51-4072.00)
 PREPRESS TECHNICIAN (51-5111.00)
 PRINTING PRESS OPERATOR (51-5112.00)
 PRODUCTION MACHINE OPERATOR (51-4081.00)
 PUMP OPERATOR (53-7072.00)
 RAIL CAR REPAIRER (49-3043.00)
 RAIL YARD ENGINEER (53-4013.00)
 RECREATIONAL VEHICLE SERV. TECH. (49-3092.00)
 RECYCLING COORDINATOR (53-1021.01)
 REFINERY OPERATOR (51-8093.00)
 REFRIGERATION MECHANIC (49-9021.02)
 REFUSE/RECYCLABLE TRASH COLLEC. (53-7081.00)
 ROBOTICS TECHNICIAN (17-3024.01)
 ROLLING MACHINE OPERATOR (51-4023.00)
 ROTARY DRILL OPERATOR (47-5012.00)
 ROUSTABOUT (47-5071.00)
 SANDBLASTER (47-2061.00)
 SECURITY MANAGEMENT SPECIALIST (13-1199.02)
 SHEET METAL WORKER (47-2211.00)
 SHIP ENGINEER (53-5031.00)
 SHIP FITTER (51-4192.00)
 SMALL ENGINE MECHANIC (49-3053.00)
 SPRAY MACHINE OPERATOR (51-9121.00)
 STATIONARY ENGINEER (51-8021.00)
 STREET PAVER (47-2071.00)
 TANK CAR, TRUCK & SHIP LOADER (53-7121.00)
 TIRE BUILDER (51-9197.00)
 TIRE REPAIRER (49-3093.00)
 TOOL & DIE MAKER (51-4111.00)
 TOOL-GRINDER OPERATOR (51-4194.00)
 TRACK LAYER (47-4061.00)
 TRACK SWITCH REPAIRER (49-9097.00)
 TRAFFIC TECHNICIAN (53-6041.00)
 TRAIN CREW MEMBER (53-4021.00)

TRANSPORTATION INSPECTOR (53-6051.07)
 TRUCK DRIVER, LONG HAUL (53-3032.00)
 TRUCK MECHANIC (49-3031.00)
 TUNE-UP MECHANIC (49-3023.02)
 VENDING MACHINE REPAIRER (49-9091.00)
 WATCH REPAIRER (49-9064.00)
 WELDER & CUTTER (51-4121.00)
 WELDER FITTER (51-4121.06)
 WELDING OPERATOR (51-4122.00)
 WELL-DRILL OPERATOR (47-5021.00)
 WIND TURBINE SERVICE TECHNICIAN (49-9081.00)
 WOODWORKING MACHINE SETTER (51-7042.00)



Some skills and abilities needed in these jobs

- Skillfully use handtools or machines for your work
- Measure, cut, or work with great accuracy
- Use eyes, hands, and fingers to operate equipment
- Lift, carry, or pull objects that may be heavy
- Work outdoors in all kinds of weather
- Carefully follow and perform instructions and routine work
- Picture a finished product, or how a system works
- Use math skills for measuring or computing
- Detect small differences in shape, size, and texture of products
- Pay strict attention to set standards and guidelines
- Understand and use blueprints and similar specifications

Suggested activities to get experience

Make and operate scale models of airplanes, boats, cars, or trains
 Repair automobiles
 Make a radio
 Build a computer
 Be a ham radio operator
 Repair a bicycle, clock, computer, or other appliance
 Take a part-time job in construction, or in a garage
 Assemble toys following directions



Related Career Areas: Architecture & Construction; Arts, Audio-Video Technology & Communications; Manufacturing; Transportation, Distribution, & Logistics. **Work Groups:** Mechanical, Equipment Operation, Craft Technology, Elemental Work: Mechanical, Crafts, Systems Operation, Quality Control, Land & Water Vehicle Operation. **Industrial, Production Technology, Production Work, Quality Control, Elemental Work:** Industrial.

3 & 4 TECHNOLOGY, COLLEGE MAJORS:

Aeronautical-Marine/Mechanical-Chemical

Aerospace Engr.	Chemical Engr.	Heating/Refrig.	Hydraulic Tech.	Mechanical	Mining/Mineral	Nuclear	Petroleum
Astronautical Engr.	Diesel	Technology	Industrial/Manuf.	Engineering	Engineering	Engineering	Engineering
Audio Engineering	Mechanics	Fire Science	Engineering	Metallurgical	Naval	Ocean	Polymer/Plastics
Biomedical Engr.	Engr. Design	Geological Engr.	Marine Engr.	Engineering	Architecture	Engineering	Engineering

Civil-Construction

Architectural	Construction
Engineering	Engineering
Ceramic Science	Trades
Civil	Environmental Studies
Engineering	Material Sci. & Engr.

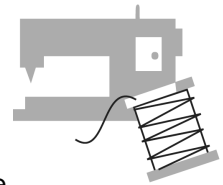
Electrical

Structural Engineer	Air Traffic Control
Systems Engineer	Business System
Transportation	Design
Highway Engr.	Computer
Water Resource Engr.	& Info. Science

Computer Engr.	Electrical/Electron.
Computer	Engineering
Hardware Engr.	Instrumentation
Computer System	Technology
Networking	System Admin.

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 Occupations may be looked up in the COPSsystem *Career Briefs Kit* alphabetically within Clusters.
 Occupations may be looked up alphabetically in the *Occupational Outlook Handbook* at <http://www.bls.gov/oco/>.

5 CONSUMER ECONOMICS occupations involve the preparation and packaging of foods and beverages. They also include the production and care of clothing and textile products. (See sample occupations below.)



Related courses of study:

FAMILY & CONSUMER SCIENCES - Clothing, Health, Food Services, Tailoring

INDUSTRIAL TECHNOLOGY - Construction Trades, Crafts, Metalshop; **SCIENCE** - General Science

MATHEMATICS - Math

SCHOOL SERVICE - Cafeteria

Food Products

BAKER (51-3011.00)*
BAKER, PIZZA (35-2011.00)
BAKERY WORKER (51-3011.00)
BANQUET CHEF (35-1011.00)
BREWMASTER (51-9012.00)
BUTCHER (51-3021.00)
BUTTERMAKER (51-3092.00)
CAKE DECORATOR (51-3011.00)
CANDY MAKER (51-3092.00)
CANNERY WORKER (51-9198.00)
CATERING MANAGER (35-3021.00)
CHEESEMAKER (51-9012.00)
CHEF (35-1011.00)
CLEANING EQUIPMENT OPERATOR (51-9192.00)
CLINICAL DIETITIAN (29-1031.00)
COFFEE BEAN ROASTER (51-3091.00)
COOK, FAST FOOD (35-2011.00)
COOK, INSTITUTION (35-2012.00)
COOK, RESTAURANT (35-2014.00)
COOK, SHORT ORDER (35-2015.00)
CULINARY INSTRUCTOR (25-3021.00)
DIETARY AIDE (35-3041.00)
DIETETIC TECHNICIAN (29-2051.00)
DIETITIAN (29-1031.00)
DISHWASHER (35-9021.00)
DRYING MACHINE OPERATOR (51-3091.00)
FISH CLEANER (51-3022.00)
FISH SMOKER (51-3091.00)
FOOD AND BEVERAGE CHECKER (35-1012.00)
FOOD BATCH MAKER (51-3092.00)
FOOD COOKING MACHINE OPERATOR (51-3093.00)
FOOD PREPARATION COOK (35-2021.00)
FOOD SCIENCE TECHNICIAN (19-4011.02)
FOOD SERVER (35-3041.00)
FOOD SERVICE MANAGER (11-9051.00)
FREEZER OPERATOR (51-9193.00)
FRYER OPERATOR (51-3093.00)
GRILL COOK (35-2011.00)
HOME ECONOMICS TEACHER (25-1192.00)
HOME MANAGEMENT ADVISER (25-9021.00)
KITCHEN HELPER (35-2021.00)

KITCHEN MANAGER (35-1012.00)
LIQUOR BLENDER (51-9012.00)
MANAGER, CAFETERIA (11-9051.00)
MEAT CUTTER (PACKER) (51-3023.00)
MIXING-MACHINE OPERATOR (51-9023.00)
NUTRITIONIST (29-1031.00)
PACKAGER, HAND (53-7064.00)
PACKING-HOUSE SUPERVISOR (51-1011.00)
PASTEURIZER (51-3093.00)
PASTRY CHEF (35-1011.00)
POULTRY CUTTER/TRIMMER (51-3022.00)
PRODUCE STOCK CLERK (43-5081.01)
ROASTER, FOOD (51-3091.00)
SAUSAGE MAKER (51-3023.00)
SCHOOL COOK (35-2012.00)
SOUS CHEF (35-2014.00)
TOBACCO BLENDER (51-3091.00)
WINE MAKER (51-9012.00)
WINERY WORKER (51-9012.00)



Textile Products

ALTERATION TAILOR (51-6052.00)
AUTOMOBILE UPHOLSTERER (51-6093.00)
BEADWORKER (51-6051.00)
BLEACHING & DYEING MACHINE OPER. (51-6061.00)
CARPET INSTALLER (47-2041.00)
CORRUGATOR OPERATOR (51-9196.00)
CUSTOM SEWER (51-6052.00)
CUTTER, HAND (51-9031.00)
CUTTER, MACHINE (51-9032.00)
CUTTING MACHINE OPERATOR (51-6062.00)
DRAPERY SEWER (51-6031.00)

DRESSMAKER (APPAREL) (51-6052.00)
DRY CLEANER (51-6011.00)
EMBOSSEER (51-5112.00)
EMBROIDERY-MACHINE OPERATOR (51-6031.00)
EMBROIDERY PATTERN MAKER (51-6092.00)
FABRIC MENDER (49-9093.00)
FOLDING-MACHINE OPERATOR (53-7063.00)
FURNITURE FINISHER (51-7021.00)
FURNITURE UPHOLSTERER (51-6093.00)
HAT MAKER (51-6051.00)
INSPECTOR, FINISHING (51-9061.00)
KNITTER MECHANIC (51-6063.00)
KNITTING TEXTILE MACHINE OPER. (51-6063.00)
LAUNDRY WORKER (51-6011.00)
LEATHER GOODS ASSEMBLER (51-6041.00)
LEATHER WORKER (51-6041.00)
PAPER CUTTER (51-9032.00)
PAPER-NOVELTY MAKER (51-9196.00)
PATTERN LAYOUT TECHNICIAN (51-6092.00)
PATTERNMAKER (51-6092.00)
PRECISION DYER (51-6011.00)
PRESSER, GARMENT (51-6021.00)
PRESSER, MACHINE (51-6021.00)
QUILTING-MACHINE OPERATOR (51-6031.00)
RUG CUTTER (51-9031.00)
RUG HOOKER (51-6063.00)
RUG REPAIRER (51-6099.00)
SADDLEMAKER (51-6041.00)
SEWER, HAND (51-6051.00)
SEWING MACHINE OPERATOR (51-6031.00)
SHOE MACHINE OPERATOR (51-6042.00)
SHOE MAKER (51-6041.00)
SHOE REPAIRER (51-6041.00)
SLIP-COVER SEWER (51-6031.00)
SPOTTER, DRY CLEANING (51-6011.00)
STITCHER, COMPUTER (51-6031.00)
TAILOR, CUSTOM APPAREL (51-6052.00)
TEXTILE DYEING MACHINE OPERATOR (51-6061.00)
TEXTILE WINDING MACH. SETTER (51-6064.00)
THREADER (51-6063.00)
UPHOLSTERER (51-6093.00)
WEAVER (51-6063.00)



Some skills and abilities needed in these jobs

- Use hands, arms and fingers with skill
- Do the same task over and over
- Skillfully use handtools or machines
- Measure & cut materials, work with accuracy
- Lift, pull, and move heavy materials
- Picture how a finished product will look, or how a system operates
- Use math skills for measuring or computing

Suggested activities to get experience

Make ceramics or pottery
Do cooking, knitting, sewing, weaving,
macrame, embroidery or needlepoint
Read trade magazines

Learn to set up machines
Participate in fashion shows
Take a part-time job in a
restaurant or grocery

Related Career Areas: Agriculture, Food, & Natural Resources; Hospitality and Tourism; Manufacturing. **Work Groups:** Mechanical, Craft Technology—Woodworking; Custom Sewing, Tailoring, Upholstering; Dyeing; Food Preparation, Crafts—Food Preparation, Elemental Work: Mechanical—Food Preparation. **Industrial, Production Technology, Production Work.**

5 CONSUMER ECONOMICS, COLLEGE MAJORS:

Food Products

Agricultural
Economics
Business Home
Economics
Chemistry

Consumer
Economics
and Science
Consumer/Home
Education

Culinary Arts
Food/Nutrition
Science &
Technology
Home Economics

Human Nutritional
Services
Institutional Food Serv.
Sanitation
Technology

Textile Products

Clothing & Textile
Studies
Fiber, Textile,
& Weaving Arts

Leatherwork
and Upholstery
Technology Ed./
Industrial Arts

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6 OUTDOOR occupations involve activities performed primarily out-of-doors. They include the growing and tending of plants and animals and the cultivation and gathering of crops and natural resources in the areas of agriculture and nature as in forestry, park service, fishing, and mining. (See sample occupations below.)

Related courses of study:

BUSINESS - General Business, Bookkeeping, Personal Finance

INDUSTRIAL TECHNOLOGY - Auto Mechanics, Metalshop, Construction Trades

SCIENCE - Agriculture, Biology, Chemistry, Conservation, Ecology, Forestry, Landscape

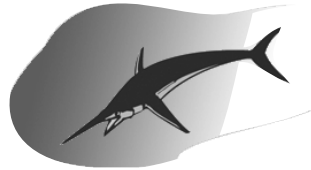


Agribusiness

AGRICULTURAL COMMOD. GRADER (45-2041.00)*
 AGRICULTURAL ENGINEER (17-2021.00)
 AGRICULTURAL EQUIPMENT OPERATOR (45-2091.00)
 AGRICULTURAL INSPECTOR (45-2011.00)
 AGRICULTURAL TECHNICIAN (19-4011.01)
 ANIMAL BREEDER (45-2021.00)
 ANIMAL CARETAKER (39-2021.00)
 ANIMAL SCIENTIST (19-1011.00)
 ANIMAL TRAINER (39-2011.00)
 AQUACULTURE MANAGER (11-9013.03)
 AQUARIST (39-2021.00)
 BEEKEEPER (45-2093.00)
 COUNTY AGRICULTURAL AGENT (25-9021.00)
 CROP MANAGER (45-1011.07)
 DAIRY FARMER (11-9013.02)
 DAIRY SCIENTIST (19-1011.00)
 DOG GROOMER (39-2021.00)
 FARM LABOR CONTRACTOR (13-1074.00)
 FARM MACHINE OPERATOR (45-2091.00)
 FARMER (11-9013.00)
 FARMER, VEGETABLE (11-9013.02)
 FARMER, VINE FRUIT (11-9013.02)
 FARMWORKER, CROP (45-2092.02)
 FARMWORKER, DAIRY (45-2093.00)
 FARMWORKER, LIVESTOCK (45-2093.00)
 FARMWORKER, POULTRY (45-2093.00)
 FARRIER (39-2021.00)
 FIELD HAULER (45-2091.00)
 FISH HATCHERY MANAGER (11-9013.03)
 FISH HATCHERY SUPERVISOR (45-1011.06)
 GAME-BIRD FARMER (45-2093.00)
 GREENHOUSE MANAGER (11-9013.01)
 HARVEST WORKER (45-2092.02)
 HAY FARMER (11-9013.02)
 HORSE RANCHER (45-2021.00)
 HORSE TRAINER (39-2011.00)
 HORSESHOER (39-2021.00)
 IRRIGATOR (45-1011.07)
 KENNEL ATTENDANT (39-2021.00)
 LIVESTOCK MANAGER (11-9013.02)
 LIVESTOCK RANCHER (11-9013.02)
 MACHINE FEEDER (53-7063.00)

MANAGER, AGRICULTURE (11-9013.00)
 MANAGER, DAIRY FARM (11-9013.02)
 MANAGER, FARM (11-9013.02)
 MANAGER, NURSERY (11-9013.01)
 NURSERY WORKER (45-2092.01)
 ORCHARDIST (11-9013.02)
 POULTRY FARMER (11-9013.02)
 PRECISION AGRICULTURAL TECH. (19-4099.02)
 PURCHASING AGENT, FARM PRODUCTS (13-1021.00)
 RACEHORSE TRAINER (39-2011.00)
 RANCH HAND (45-2093.00)
 RANGE MANAGER (19-1031.02)
 REPTILE FARMER (45-2021.00)
 SHELLFISH GROWER (45-3011.00)
 SOIL CONSERVATIONIST (19-1031.01)
 SPRAYER, HAND (37-3012.00)
 STABLE ATTENDANT (39-2021.00)
 SUPERVISOR, STOCK RANCH (45-1011.08)
 TOBACCO GROWER (11-9013.02)
 TRACTOR OPERATOR (HEAVY EQUIP.) (53-7051.00)
 TREE PLANTER (45-4011.00)
 TREE TRIMMER (37-3013.00)
 VETERINARY ASSISTANT (31-9096.00)
 VETERINARY TECHNICIAN (29-2056.00)
 ZOOKEEPER (39-2021.00)

DERRICK OPERATOR, OIL & GAS (47-5011.00)
 DREDGE OPERATOR (53-7031.00)
 ENVIRON. RESTORATION PLANNER (19-2041.02)
 FALLER (45-4021.00)
 FIRE PREVENTION SPECIALIST (33-2022.00)
 FISH & GAME WARDEN (33-3031.00)
 FISHER (45-3011.00)
 FOREST & CONSERVATION TECH. (19-4093.00)
 FOREST/CONSERVATION WORKER (45-4011.00)
 FOREST FIRE FIGHTER (33-2011.02)
 FOREST FIRE PREVENTION SUPER. (33-1021.02)
 FORESTER (19-1032.00)
 GROUNDSKEEPER (37-3011.00)
 HABITAT MANAGEMENT COORDINATOR (19-1031.02)
 HARBOR PILOT (53-5021.03)
 HUNTER/TRAPPER (45-3021.00)
 LANDSCAPE GARDENER (37-3011.00)
 LAWN-SERVICE MANAGER (37-1012.00)
 LOG GRADER (45-4023.00)
 LOGGING EQUIPMENT OPERATOR (45-4022.00)
 LOGGING OPERATION SUPERVISOR (45-1011.05)
 LOGGING WORKER (45-4029.00)
 MERCHANT MARINE (53-5011.00)
 MINE CUTTING OPERATOR (47-5042.00)
 MINER (47-5021.00)
 MINING MACHINE OPERATOR (47-5041.00)
 MOBILE HEAVY EQUIPMENT MECHANIC (49-3042.00)
 MOTORBOAT OPERATOR (53-5022.00)
 PARK NATURALIST (19-1031.03)
 PARK RANGER (19-1031.03)
 RIG OPERATOR (47-5013.00)
 RIGGER (49-9096.00)
 ROCK SPLITTER, QUARRY (47-5051.00)
 ROOF BOLTER (47-5061.00)
 SAILOR (53-5011.00)
 SAWING MACHINE OPERATOR (51-7041.00)
 SHIPS CREW MEMBER (53-5021.02)
 SHUTTLE CAR OPERATOR (53-7033.00)
 SKIFF OPERATOR (45-3011.00)
 SMOKE JUMPER (33-2011.02)
 SPECIAL FORCES (MILITARY) (55-3018.00)
 WELLHEAD PUMPER (53-7073.00)
 WILDLIFE MANAGER (33-3031.00)



Nature

ABLE SEAMAN (53-5011.00)
 BRIDGE & LOCK TENDER (53-6011.00)
 CAPTAIN, SHIP (53-5021.01)
 COAL HAULER OPERATOR (53-7111.00)
 COMMERCIAL DIVER (49-9092.00)
 DECKHAND (45-3011.00)

Some skills and abilities needed in these jobs

- Work outdoors in all kinds of weather, sometimes doing tasks that require hard labor
- Understand & apply procedures such as rotating crops, treating trees with chemicals, or feeding livestock
- Work quickly and skillfully with your hands to do such things as pick fruit, saw logs, or operate tractors
- Keep accurate financial and production records
- Get along well with other people in many different work situations, such as overseeing their activities or negotiating for the purchase or sale of products
- Stay very patient while going over and over the same routines with animals to train them to perform

Suggested activities to get experience

Take a part-time job gardening, farming or caring for lawns
 Be on a clean-up crew in a forest or park

Raise, breed, train and care for animals, birds, fish and plants
 Go camping, hunting or fishing

Related Career Areas: Agriculture, Food & Natural Resources. Work Groups: *Plants & Animals*, Managerial Work, General Supervision, Animal Training & Service, Elemental Work.

6 OUTDOOR, COLLEGE MAJORS:

Agribusiness

Agricultural
 Business
 Engineering
 Management
 Science

Animal Science
 Animal Prod.
 Dairy Science
 Horse Mgmt.

Crop Production
 Technology
 Environmental
 Science

Farm/Ranch
 Management
 Fisheries
 Science
 Management

Horticulture Science
 Fruit Industries
 Greenhouse
 Orchard & Vine
 Ornamental

International
 Agriculture
 Nursery Mgmt.
 Plant Breeding
 Plant Science

Range Mgmt.
 Soil Sciences
 Vet./ Animal Hlth.
 Wood Science
 Technology

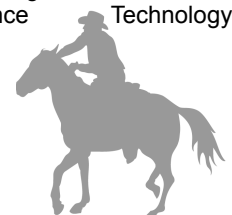
Nature

Fish/Game Mgmt.
 Forestry
 Harvest./Produc.
 Management
 Sciences

Land Use
 Management
 Maritime Science
 Marine Technology
 Mining Technology

Natural
 Resource
 Management
 Park
 Management

Soil
 Conservation
 Water Resources
 Wildlife and
 Fish Biology



* The number in parenthesis is the O*NET™ Version 20.1 code. For a complete description of this code, see <http://www.onetcenter.org/>.
 Occupations may be looked up in the COPSysstem *Career Briefs Kit* alphabetically within Clusters.
 Occupations may be looked up alphabetically in the *Occupational Outlook Handbook* at <http://www.bls.gov/oco/>.

7 **BUSINESS, PROFESSIONAL** occupations include positions of high responsibility in the organization, administration and efficient functioning of businesses and governmental bureaus. They involve finance and accounting, management, and business promotion. (See sample occupations below.)

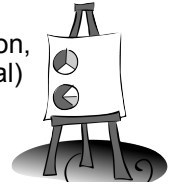
Related courses of study:

BUSINESS - Accounting, Bookkeeping, Business, Business Law, Data Processing, Distributive Education, Economics, Keyboarding, Personal Finance, Sales, Work Experience (Exploratory, General)

ENGLISH - Business English, Expository Writing, Speech

MATHEMATICS - Advanced Math, Computer Science, Practical and Consumer Math

SOCIAL SCIENCES - American Government, History, Psychology, Student Government



Finance

ACCOUNTANT (13-2011.01)*
ACCOUNTANT, COST (13-2011.01)
ACCOUNTANT, TAX (13-2011.01)
AUDITOR (13-2011.02)
BUDGET ANALYST (13-2031.00)
BURSAR (13-2011.01)
BUSINESS CONTINUITY PLANNER (13-1199.04)
BUSINESS INTELLIGENCE ANALYST (15-1199.08)
CHIEF SUSTAINABILITY OFFICER (11-1011.03)
COMPENSATION/BENEFITS SPECIALIST (13-1141.00)
COMPLIANCE MANAGER (11-9199.02)
CONTROLLER (11-3031.01)
COST ESTIMATOR (13-1051.00)
CREDIT ANALYST, CHIEF (13-2041.00)
E-COMMERCE SPECIALIST (15-1199.10)
ECONOMIST (19-3011.00)
ESTATE PLANNER (13-2052.00)
FINANCIAL EXAMINER (13-2061.00)
FINANCIAL MANAGER (11-3031.02)
FINANCIAL QUANTITATIVE ANALYST (13-2099.01)
FINANCIAL RISK & INSURANCE MGR. (11-3031.02)
FRAUD EXAMINER (13-2099.04)
INFORMATION TECH. PROJECT MGR. (15-1199.09)
INVESTMENT FUND MANAGER (11-9199.03)
INVESTMENT UNDERWRITER (13-2099.03)
LOAN COUNSELOR (13-2071.01)
LOGISTICIAN (13-1081.00)
LOGISTICS ANALYST (13-1081.02)
LOGISTICS ENGINEER (13-1081.01)
LOGISTICS MANAGER (11-3071.03)
LOSS PREVENTION MANAGER (11-9199.08)

MANAGEMENT ANALYST (13-1111.00)
MARKET-RESEARCH ANALYST (13-1161.00)
MARKETING MANAGER (11-2021.00)
MORTGAGE BROKER (13-2072.00)
ONLINE MERCHANT (13-1199.06)
PERSONAL FINANCIAL ADVISER (13-2052.00)
PROGRAMMER, BUSINESS (15-1131.00)
PROJECT MANAGER (13-1161.00)
REGULATORY AFFAIRS MANAGER (11-9199.01)
RISK MANAGEMENT SPECIALIST (13-2099.02)
SUPPLY CHAIN MANAGER (11-9199.04)
TAX EXAMINER (13-2081.00)
TREASURER (11-3031.01)
UNDERWRITER (INSURANCE) (13-2053.00)

Management-Promotion

ADMINISTRATIVE SERVICE MANAGER (11-3011.00)
ADMIN., EDUCATION POST SECONDARY (11-9033.00)
AIR TRAFFIC CONTROLLER (53-2021.00)
ASSOCIATION EXECUTIVE (11-1011.00)
BANK MANAGER (11-3031.02)
CAMPAIGN MANAGER (11-2011.00)
CHIEF EXECUTIVE OFFICER (11-1011.00)
COMMUNITY SERVICE MANAGER (11-9151.00)
COMPUTER TRAINING SPECIALIST (13-1151.00)
CONTRACT SPECIALIST (13-1023.00)
CORPORATE RECRUITER (13-1071.00)
EMERGENCY MANAGEMENT SPEC. (11-9161.00)
EMPLOYMENT RECRUITER (13-1071.00)
ENTREPRENEUR (11-1011.00)
GENERAL & OPERATIONS MANAGER (11-1021.00)

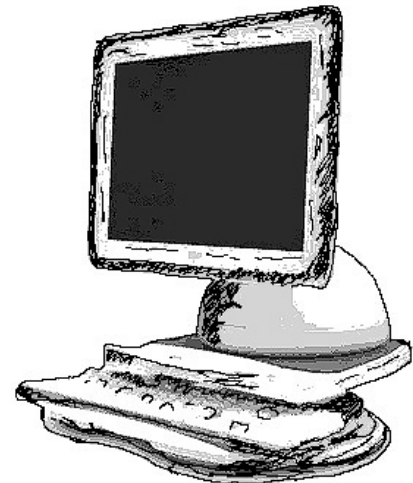
HOSPITAL ADMINISTRATOR (11-9111.00)
INDUSTRIAL PRODUCTION MANAGER (11-3051.00)
JOB ANALYST (13-1141.00)
LABOR RELATIONS SPECIALIST (13-1075.00)
LAWYER, CORPORATION (23-1011.00)
LEGISLATOR (11-1031.00)
LOBBYIST (27-3031.00)
MANAGER, ADVERTISING (11-2011.00)
MANAGER, BRANCH (11-3031.02)
MANAGER, CITY (11-1011.00)
MANAGER, HOTEL (& RESTAURANT) (11-9081.00)
MANAGER, HUMAN RESOURCES (11-3121.00)
MANAGER, PURCHASING (11-3061.00)
MANAGER, SALES (11-2022.00)
MANAGER, STORAGE & DISTRIBUTION (11-3071.02)
MANAGER, STORE (41-1011.00)
MANAGER, TRANSPORTATION (11-3071.01)
MEDICAL RECORDS ADMINISTRATOR (11-9111.00)
OPERATIONS OFFICER (11-3031.02)
PERSONNEL RECRUITER (13-1071.00)
POLICE COMMISSIONER (11-1011.00)
POLITICAL SCIENTIST (19-3094.00)
POSTMASTER (11-9131.00)
PRESIDENT (COMPANY/CORPORATION) (11-1011.00)
PRODUCTION MANAGER (11-3051.00)
PROPERTY MANAGER (11-9141.00)
PUBLIC RELATIONS MANAGER (11-2031.00)
SALARY & WAGE ADMINISTRATOR (11-3111.00)
TRAINING & DEVELOPMENT MANAGER (11-3131.00)
URBAN/REGIONAL PLANNER (19-3051.00)



Some skills and abilities needed in these jobs

- Use logical thinking and personal judgment to perform a variety of office tasks that require special skills and knowledge
 - Originate and carry out sales campaigns
 - Plan and direct the effect politics and economic trends will have on company or agency plans

- Understand the government regulation of businesses
- Speak and write clearly and accurately
- Compute costs and prepare cost estimates
- Persuade others to agree to terms
- Accept full responsibility for managing an activity
- Continually make decisions based on experience and personal feelings as well as on facts and figures
- Create ways of presenting information to attract attention
- Use math to interpret financial information and prepare budgets
- Understand and use mathematical concepts in order to design a financial or economic system
- Keep accurate records and write detailed reports
- Understand, interpret and apply legal procedures and laws
- Deal with all kinds of people ranging from civic leaders to employees and from legislators to the general public



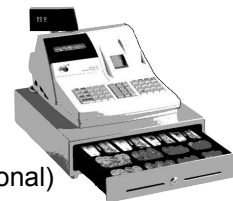
Suggested activities to get experience

Follow the stock market
Read business magazines
Participate in a debate
Help in political campaigns
Supervise people in club activities
Write letters of inquiry to businesses
Learn to use functions on a calculator
Use a software program to make a budget
Open a checking and/or savings account

Related Career Areas: Business Management & Administration; Finance; Government & Public Administration. **Work Groups:** Leading - Influencing, Promotion, Contracts & Claims, Business Management, Business Administration, Finance, Law, Mathematics and Statistics, Social Research—Economic, Sociological. **Business Detail, Administrative Detail—Administration.**

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8 BUSINESS, SKILLED occupations involve sales, promotion and marketing. They also include financial and organization activities of businesses in regard to promotion of business. (See sample occupations below.)



Related courses of study:

BUSINESS - Bookkeeping, Business, Business Law, Data Processing, Distributive Education, Economics, Keyboarding, Personal Finance, Sales, Work Experience (Exploratory, General, Vocational)

ENGLISH - Business English, Speech

MATHEMATICS - Computer Literacy, Math, Practical and Consumer Math

SCHOOL SERVICE - Office

Finance

APPRAISER (13-2021.00)*
APPRAISER, AUTOMOBILE DAMAGE (13-1032.00)
APPRAISER, REAL ESTATE (13-2021.02)
ASSESSOR (13-2021.01)
BUSINESS OPERATIONS SPECIALIST (13-1199.00)
BUYER (13-1022.00)
CLAIMS ADJUSTER (13-1031.02)
CLAIMS EXAMINER (13-1031.01)
CLAIMS TAKER (43-4061.00)
CREDIT ANALYST (13-2041.00)
CREDIT AUTHORIZER (43-4041.01)
CREDIT CHECKER (43-4041.02)
CREDIT COUNSELOR (13-2071.00)
CUSTOMS BROKER (13-1199.03)
ENERGY BROKER (41-3099.01)
ESCROW OFFICER (43-4131.00)
FARM PRODUCTS PURCHASING AGENT (13-1021.00)
FUNERAL SERVICE MANAGER (11-9061.00)
GAMING BOOK WRITER (39-3012.00)
GAMING MANAGER (11-9071.00)
INVESTIGATOR, INSURANCE (13-1031.02)
LOAN INTERVIEWER (43-4131.00)
LOAN OFFICER (FINANCIAL) (13-2072.00)
LOSS PREVENTION SPECIALIST (33-9099.02)
PURCHASING AGENT (13-1023.00)
REGULATORY AFFAIRS SPECIALIST (13-1041.07)

TAX PREPARER (13-2082.00)
TITLE EXAMINER (23-2093.00)
TITLE SEARCHER (23-2093.00)
WELFARE ELIGIBILITY INTERVIEWER (43-4061.00)

Promotion-Sales

AUCTIONEER (13-2021.01)
AUTOMOTIVE SERVICE ADVISER (43-4051.00)
BARKER (39-3091.00)
BROKERAGE (SECURITIES) CLERK (43-4011.00)
CUSTOMER-SERVICE REP. (43-4051.00)
DEMONSTRATOR (41-9011.00)
EMPLOYMENT INTERVIEWER (13-1071.00)
EXECUTIVE SECRETARY (43-6011.00)
GREEN MARKETER (11-2011.01)
MANAGER, DEPARTMENT (41-1011.00)
MANAGER, RESTAURANT (11-9051.00)
MANAGER, RETAIL SALES (41-1011.00)
MANUFACTURERS' REPRESENTATIVE (41-4012.00)
PAWNBROKER (41-1011.00)
PHARMACEUTICAL REPRESENTATIVE (41-4011.00)
REAL ESTATE AGENT (41-9022.00)
REAL ESTATE BROKER (41-9021.00)
RETAIL SALESPERSON (41-2031.00)

ROUTE DRIVER (53-3031.00)
SALES AGENT, ADVERTISING (41-3011.00)
SALES AGENT, FINANCIAL SERVICES (41-3031.02)
SALES AGENT, INSURANCE (41-3021.00)
SALES ASSISTANT (41-9099.00)
SALES CLERK (RETAIL) (41-2031.00)
SALES REPRESENTATIVE, CHEMICALS (41-4011.00)
SALES REP., DOOR-TO-DOOR (41-9091.00)
SALES REP., ELECTRONIC (41-4011.00)
SALES REP., MECHANICAL EQUIP. (41-4011.00)
SALES REP., TECHNICAL & SCIENTIFIC (41-4011.00)
SALES REP., WHOLESALE (41-4012.00)
SALESPERSON, AUTOMOBILE (41-2031.00)
SALESPERSON, PARTS (AUTOMOBILE) (41-2022.00)
SALESPERSON, RETAIL (41-2031.00)
SALESPERSON, SPORTING GOODS (41-2031.00)
SALESPERSON, WOMEN'S APPAREL (41-2031.00)
SECURITIES TRADER (41-3031.03)
SERVICE SALES REP. BUSINESS (41-3011.00)
SOLAR SALES REPRESENTATIVE (41-4011.07)
STOCKBROKER (41-3031.01)
TELEMARKETER (41-9041.00)
WHOLESALE/RETAIL BUYER (13-1022.00)

Some skills and abilities needed in these jobs

- Express yourself well when talking to buyers or sellers, to discuss features of the products or services involved and convince the other person of both your knowledge and honesty
- Communicate well with many different people
- Show customers courtesy & respect, even in difficult situations
- Help customers to make up their minds about purchases by suggesting appropriate products
- Use arithmetic in computing the mark-up on merchandise, or quoting rates for varying amounts
- Write detailed reports
- Maintain enthusiasm and interest throughout all conferences with buyers or sellers
- Keep accurate records of contracts, sales and purchases
- Change activities easily and frequently, such as from interviewing, or searching in a computer directory, to using a telephone
- Understand and explain company policies about such things as finance charges, returned goods or service guarantees
- Speak and write clearly to report financial data
- Compute costs and prepare cost estimates
- Understand laws used in writing contracts and settling claims



Suggested activities to get experience

Distribute flyers for a business
Take a part-time sales job
Do volunteer work for charities
Attend an auction, estimate prices and bid
Plan and conduct a fund-raising campaign

Take orders and collect money for a yearbook for a school, church, or club activity
Follow the stock market
Use a software program to make a budget

Related Career Areas: Finance; Marketing Sales & Service. Work Groups: Selling, Sales Technology, General Sales, Vending, Business Detail, Administrative Detail—Interviewing; Financial Detail, Oral Communications. Leading - Influencing, Finance-Brokering, Contracts and Claims—Claims Settlement.



Finance

Accounting
Accounting
Technology
Banking
Bus. Admin.

Business
Computer
Programming
Business
Statistics

Finance
Financial
Planning
Insurance & Risk
Management

International
Economics
Finance
Legal
Administration

Marketing
Research
Operations Management
Procurement
Contracts Management

Management-Promotion

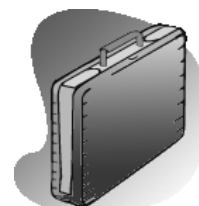
Advertising
Business
Communications
City, Regional Planner
Entrepreneurship
Fashion
Merchandising

Financial
Services
Marketing
Hospital
Administration
Hotel/Restaurant
Management

Human Resources
Management
Insurance Marketing
Operations
International
Business
Marketing

Logistics and Materials
Management
Management Science
Marketing
Organizational
Behavior
Studies

Political
Science
Real Estate
Retail
Management
Travel-Tourism
Management



7 & 8 BUSINESS, COLLEGE MAJORS:

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9 **CLERICAL** occupations involve recording, posting and filing of business records requiring great attention to detail, accuracy, neatness, orderliness and speed. They include office work and contact with customers in keeping records. (See *sample occupations below.*)

Related courses of study:

BUSINESS - Bookkeeping, Business, Data Processing, Keyboarding, Record Keeping, Shorthand, Word Processing, Work Experience (Exploratory, General, Vocational)

ENGLISH - Business

MATHEMATICS - Computer Literacy, Math, Practical and Consumer Math

SCHOOL SERVICE - Library Assistant, Office



Customer Contact

ADMINISTRATIVE ASSISTANT (43-6011.00)*
BILL COLLECTOR (43-3011.00)
CASHIER (41-2011.00)
CLAIMS CLERK (43-9041.01)
CLERK, LICENSE (43-4031.03)
CLERK, MUNICIPAL (43-4031.02)
COMMAND & CONTROL CENTER SPEC. (55-3015.00)
COUNTER CLERK (41-2021.00)
DISPATCHER (43-5032.00)
DISPATCHER, EMERGENCY (43-5031.00)
GAMING CASHIER (41-2012.00)
HOTEL CLERK (DESK) (43-4081.00)
HUMAN RESOURCES ASSISTANT (43-4161.00)
INFORMATION CLERK (43-4171.00)
INTERVIEWER CLERK (43-4111.00)
MANAGER, ADMINISTRATIVE SUPPORT (43-1011.00)
MEDICAL SECRETARY (43-6013.00)
NEW ACCOUNTS CLERK (43-4141.00)
ORDER CLERK (43-4151.00)
PATIENT REPRESENTATIVE (43-4051.03)
POSTAL CLERK (43-5051.00)
RECEPTIONIST (43-4171.00)
RENTAL CLERK (41-2021.00)
SCHOOL SECRETARY (43-6014.00)
SECRETARY (43-6014.00)
SECRETARY, LEGAL (43-6012.00)
SOCIAL SECRETARY (43-6014.00)
SWITCHBOARD OPERATOR (43-2011.00)
TELEPHONE ANSWERING SERVICE (43-2011.00)
TELEPHONE OPERATOR (43-2021.00)
TELLER (43-3071.00)
TICKET AGENT (43-4181.00)

TOLL COLLECTOR (41-2011.00)
TRAVEL CLERK (43-4181.00)



Classification-Computational

AUDITING CLERK (43-3031.00)
BILLING CLERK (43-3021.02)
BILLING-MACHINE OPERATOR (43-3021.00)
BOOKKEEPER (43-3031.00)
CARGO & FREIGHT AGENT (43-5011.00)
CLERK, ACCOUNTING (43-3031.00)
CLERK, GENERAL OFFICE (43-9061.00)
COLLECTION CLERK (43-3011.00)
COMPUTER OPERATOR (43-9011.00)
CORRESPONDENCE CLERK (43-4021.00)
COURT REPORTER (23-2091.00)
DATA ENTRY KEYER (43-9021.00)
ESCROW SECRETARY (43-6014.00)
EXPEDITING CLERK (43-5061.00)

FILE CLERK (43-4071.00)
FREIGHT FORWARDER (43-5011.01)
GAMING CAGE WORKER (43-3041.00)
GOVERNMENT PROPERTY INSPECTOR (13-1041.04)
INSURANCE CLERK (43-9041.02)
INVENTORY SPECIALIST (43-5111.00)
KEYBOARDER (43-9021.00)
MAIL CLERK (43-9051.00)
MAIL MACHINE OPER., PREP. & HANDLING (43-9051.00)
MARKING CLERK (43-5081.02)
MEDICAL-RECORDS TECHNICIAN (29-2071.00)
MEDICAL TRANSCRIBER (31-9094.00)
MORTGAGE CLERK (43-4131.00)
OFFICE CLERK (43-9061.00)
OFFICE MACHINE OPERATOR (43-9071.00)
ORDER FILLER (43-5081.04)
PARTS CLERK (43-5081.03)
PAYROLL CLERK (43-3051.00)
POLICY PROCESSING CLERK (43-9041.02)
POSTAL SERVICE MAIL SORTER (43-5053.00)
POSTING CLERK (43-3021.02)
PROCUREMENT CLERK (43-3061.00)
PRODUCTION CLERK (43-5061.00)
RATE CLERK (43-3021.02)
SHIPPING & RECEIVING CLERK (43-5071.00)
SHIPPING SUPERVISOR (53-1021.00)
STATEMENT CLERK (43-3021.01)
STATISTICAL ASSISTANT (43-9111.00)
STOCK CLERK (43-5081.03)
TOOL CLERK (43-5081.03)
TRAFFIC-RATE CLERK (43-3021.02)
TYPIST (43-9022.00)
WORD PROCESSING OPERATOR (43-9022.00)

Some skills and abilities needed in these jobs

- Follow procedures for keeping records
- Use eyes, hands and fingers at the same time to enter figures in books and forms, or to operate a computer or a calculator
- See details in written materials quickly & correctly
- Follow set or routine procedures
- Avoid errors in record keeping
- See small print and figures in catalogs, on shipping tickets, and on invoices
- Use arithmetic to keep records, estimate quantities, or schedule the flow of materials through a business
- Follow instructions without close supervision
- Perform work that is routine and detailed
- Speak and write clearly and accurately

Suggested activities to get experience

Do volunteer work for a political campaign
Take a part-time job in an office or store
Work as a teacher's aide
Work on a school or club newspaper or yearbook
Write letters of inquiry to businesses
Use software to balance a checkbook
Stamp and address newsletters for a club



Related Career Areas: Marketing Sales & Service; Transportation, Distribution & Logistics Services. Work Groups: *Business Detail*, Administrative Detail, Mathematical Detail, Financial Detail, Oral Communications, Records Processing, Clerical Machine Operation, Clerical Handling, Mechanical, Material Control.

9 CLERICAL, COLLEGE MAJORS:

Customer Contact

General Studies
General Retailing
Operations

Liberal Studies
Office Supervision
Postal Management

Purchasing
Secretarial
Science

Classification-Computational

Computer
Management
Data Processing
Technology

Finance
General Office/
Clerical Studies
Information Processing

Legal
Assistance
Management
Information Systems

Medical
Transcription
Word
Processing

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Occupations may be looked up alphabetically in the *Occupational Outlook Handbook* at <http://www.bls.gov/oco/>.

10 COMMUNICATION occupations involve language skill in the creation or interpretation of literature, or in the written and oral communication of knowledge and ideas. (See sample occupations below.)



Related courses of study:

BUSINESS - American Government, Business Law, Keyboarding, Word Processing

ENGLISH - American and English Literature, Drama, Writing, Journalism, Media, Speech

SOCIAL SCIENCE - History, Psychology, Social Studies, Student Government

LANGUAGE - French, German, Latin, Spanish

SCHOOL SERVICE - Library Assistant

Written

ARCHIVIST (25-4011.00)*
BIOGRAPHER (27-3043.05)
BLOGGER (27-3043.00)
CATALOGER (LIBRARY) (25-4031.00)
COLUMNIST (27-3022.00)
COPY WRITER (27-3043.04)
COURT CLERK (43-4031.01)
CREATIVE WRITER (27-3043.05)
CRITIC (27-3043.05)
DOCUMENT MANAGEMENT SPECIALIST (15-1199.12)
EDITOR, BOOK (27-3041.00)
EDITOR, INTERNET PUBLICATIONS (27-3041.00)
EDITOR, NEWS (27-3041.00)
EDITORIAL ASSISTANT (27-3041.00)
EDITORIAL WRITER (27-3043.00)
EXECUTIVE EDITOR (27-3041.00)
FILM EDITOR (27-4032.00)
HISTORIAN (19-3093.00)
INSTRUCTIONAL DESIGNER (25-9031.01)
INVESTIGATOR (33-9021.00)
JOURNALIST (27-3022.00)
LAW CLERK (23-1012.00)
LIBRARIAN, PUBLIC (25-4021.00)
LIBRARIAN, SCHOOL (25-4021.00)
LIBRARIAN, UNIVERSITY (25-4021.00)
LIBRARY ASSISTANT (43-4121.00)

LIBRARY WORKER (25-9099.00)

LYRICIST (27-3043.05)
NEWSWRITER (27-3022.00)
PARALEGAL (23-2011.00)
PHILOLOGIST (25-1123.00)
PLAYWRIGHT (27-3043.05)
POET (27-3043.05)
PROOFREADER (43-9081.00)
REPORTER (27-3022.00)
SCREEN WRITER (27-3043.05)
TRANSLATOR (27-3091.00)
WEB WRITER (27-3042.00)
WRITER, PROSE/FICTION (27-3043.05)
WRITER, TECHNICAL (27-3042.00)



Oral

ADJUDICATOR (23-1021.00)
ADULT LITERACY INSTRUCTOR (25-3011.00)
ANCHOR, NEWS (27-3021.00)
ANNOUNCER (27-3012.00)
BROADCAST NEWS ANALYST (27-3021.00)

COMMAND & CONTROL CNTR. OFFICER (55-1015.00)
CRIMINAL JUSTICE TEACHER (25-1111.00)
DISTRICT ATTORNEY (23-1011.00)
GRADUATE TEACHING ASSISTANT (25-1191.00)
INTERPRETER (27-3091.00)
JUDGE (23-1023.00)
LAWYER (23-1011.00)
LAWYER, CRIMINAL (23-1011.00)
LAWYER, PROBATE (23-1011.00)
MAGISTRATE (23-1023.00)
MEDIATOR (23-1022.00)
NEWSCASTER (27-3021.00)
POST SEC. TEACHER, ARCHITECTURE (25-1031.00)
POST SEC. TEACHER, BIOLOGICAL SCI. (25-1042.00)
POST SEC. TEACHER, BUSINESS (25-1011.00)
POST SEC. TEACHER, COMM. (25-1122.00)
POST SEC. TEACHER, ECONOMICS (25-1063.00)
POST SEC. TEACHER, EDUCATION (25-1081.00)
POST SEC. TEACHER, FOREIGN LANG. (25-1124.00)
POST SEC. TEACHER, LITERATURE (25-1123.00)
POST SEC. TEACHER, MATH. SCI. (25-1022.00)
POST SEC. TEACHER, POLITICAL SCI. (25-1065.00)
POST SEC. TEACHER, PSYCHOLOGY (25-1066.00)
PROSECUTOR (23-1011.00)
PUBLIC RELATIONS SPECIALIST (27-3031.00)
RADIO & TV ANNOUNCER (27-3011.00)

Some skills and abilities needed in these jobs

- Use words so that your readers and listeners have a clear mental picture of your ideas
- Think logically to analyze written materials, organize facts, and interpret a wide variety of subject matter
- Analyze and interpret both current and historical information that relates to a subject you write about
- Influence the opinion of people through words
- Present personal views or interpretations on such subjects as politics, social conditions, religion, plays, or other writings
- Write reports of findings
- Make decisions based on facts and personal reasoning



- Speak clearly and easily when interviewing people or broadcasting news events
- Identify the important and newsworthy aspects of a situation
- Use correct grammar, punctuation, spelling and sentence structure
- Understand, interpret and apply legal procedures, principles and laws
- Influence opinions, attitudes, and judgments of others
- Deal with various kinds of people
- Catalog and store books and other materials

Suggested activities to get experience

Write letters to the editor
Write for a school or club paper or yearbook
Write stories and poems
Work in a library

Tutor English or foreign languages
Submit stories and poems to magazines
Read world affairs magazines
Attend court and trial proceedings

Related Career Areas: Arts, Audio-Video Technology & Communications; Government & Public Administration; Law, Public Safety, & Security. Work Groups: Artistic, Literary Arts, Elemental Arts. Leading-Influencing, Educational and Library Services, Social Research, Law, Communications.

10 COMMUNICATION, COLLEGE MAJORS:

Written

Classics
Drama/
Theater
Literature

English
Comparative Literature
Composition
Creative Writing
Technical and
Business Writing
History

International
Relations
Journalism
Law/Legal Studies
Library Science
Literature
Philosophy

Political Science
Public Policy
Analysis
Public Relations
and Organizational
Communications
Publishing

Oral

Classical
Languages
Communications

Criminal Justice
Studies
Education
Foreign Languages

Linguistics
Mass Communications
Peace and
Conflict Studies

Radio and TV
Broadcasting
Speech and
Rhetorical Studies



* The number in parenthesis is the O*NET™ Version 20.1 code. For a complete description of this code, see <http://www.onetcenter.org/>. Occupations may be looked up in the COPSsystem *Career Briefs Kit* alphabetically within Clusters. Occupations may be looked up alphabetically in the *Occupational Outlook Handbook* at <http://www.bls.gov/oco/>.

11

ARTS, PROFESSIONAL occupations involve individualized expression of creative or musical talent. They include the fields of design, fine arts and performing arts.
(See sample occupations below.)



Related courses of study:

ARTS - Arts, Crafts, Commercial Art, Computer Graphics, Drafting, Graphic Arts, Photography

PERFORMING ARTS - Band, Chorus, Drama, Glee Club, Music, Orchestra, Stage Craft

ENGLISH - Creative Writing, Speech

PHYSICAL EDUCATION - Gymnastics, Modern Dance

MATHEMATICS - Geometry

Entertaining-Performing Arts

ACROBAT (27-2011.00)*
ACTOR, ACTRESS (27-2011.00)
AGENT OF ARTISTS, ACTORS, ATHLETES (13-1011.00)
CHORAL DIRECTOR (27-2041.01)
CHOREOGRAPHER (27-2032.00)
COMEDIAN (27-2011.00)
COMPOSER, MUSIC (27-2041.04)
CONDUCTOR, MUSIC (27-2041.01)
DANCER (27-2031.00)
DIRECTOR, MOTION PICTURE (27-2012.02)
DIRECTOR, MUSIC (27-2041.01)
DIRECTOR, PROGRAM (27-2012.03)
DIRECTOR, STAGE (27-2012.02)
DISC JOCKEY (27-3012.00)
DRAMATIC COACH (25-1121.00)
EXTRACURRICULAR ACTIVITIES INSTR. (25-3021.00)
FASHION MODEL (41-9012.00)
INSTRUCTOR, DANCING (25-3021.00)
JOCKEY (27-2021.00)
MAGICIAN (27-2011.00)
MUSIC INSTRUCTOR (25-1121.00)
MUSICIAN, INSTRUMENTAL (27-2042.02)
NARRATOR (27-2011.00)
ORCHESTRATOR (27-2041.04)
PRODUCER (27-2012.01)
PRODUCTION MANAGER (27-1011.00)

PROFESSIONAL ATHLETE (27-2021.00)
PROFESSIONAL SCOUT (27-2022.00)
PROMOTER (13-1011.00)
RODEO PERFORMER (27-2021.00)
SINGER (27-2042.01)
SONG WRITER (27-2041.04)
STAGE MANAGER (27-2012.02)
STUNT PERFORMER (27-2011.00)
TALENT DIRECTOR (27-2012.04)
TEACHER, DRAMA (25-1121.00)
TEACHER, MUSIC (25-3021.00)
VENTRILQUIST/PUPPETEER (27-2011.00)
VOICE-OVER ARTIST (27-2011.00)

Fine Arts-Design

ANIMATOR (27-1014.00)
ARCHITECT (17-1011.00)
ART CONSERVATOR (25-4013.00)
ART DIRECTOR (27-1011.00)
CARTOONIST (27-1013.00)
COMMERCIAL DESIGNER (27-1021.00)
COSTUME DESIGNER (39-3092.00)
CURATOR (25-4012.00)
DECORATOR (COMMERCIAL) (27-1026.00)
FASHION ARTIST (27-1013.00)
FASHION DESIGNER (27-1022.00)
FURNITURE DESIGNER (27-1021.00)

GEMOLOGIST (51-9071.01)
HAT DESIGNER (27-1022.00)
ILLUSTRATOR (COMMERCIAL & TECHNICAL) (27-1013.00)
ILLUSTRATOR, MEDICAL & SCIENTIFIC (27-1013.00)
INDUSTRIAL DESIGNER (27-1021.00)
INTERIOR DESIGNER (27-1025.00)
JEWELER (51-9071.01)
LANDSCAPE ARCHITECT (17-1012.00)
MEMORIAL DESIGNER (27-1021.00)
MULTI-MEDIA ARTIST (27-1014.00)
ORNAMENTAL IRONWORKER (27-1021.00)
PACKAGE DESIGNER (27-1021.00)
PAINTER (27-1013.00)
PAINTINGS RESTORER (27-1013.00)
POLICE ARTIST (27-1013.00)
POTTER (51-9195.05)
PRINTMAKER (27-1013.00)
PRODUCT DESIGNER (27-1021.00)
SCULPTOR (27-1013.00)
SHOE DESIGNER (27-1022.00)
SKETCH ARTIST (27-1013.00)
STAINED GLASS ARTIST (27-1013.00)
TEACHER, ART (25-1121.00)

Some skills and abilities needed in these jobs

- Use a talent to excel in a particular skill
- Spend long hours developing and perfecting your talent and even after becoming extremely skilled, continue to practice daily
- Perform before an audience with poise and self-confidence
- Choose the most appropriate way to express an idea or create a particular effect
- Understand and apply artistic skills, such as painting, drawing or modeling in practical ways
- Move eyes, hands, body and feet together with skill
- Take pride in turning out work that appears attractive and meets the standards set by a customer or your supervisor
- Follow training rules strictly
- Visualize how a final product will look from rough sketches or computerized drawings
- Use your hands and fingers skillfully to play an instrument
- Adjust to the physical and mental pressures of competition
- Interpret roles and express ideas and emotions through body motions, facial expressions and voice inflections
- Stand, sit, walk or pose in front of an audience, photographer, or artist for long periods of time
- Recognize and follow music symbols and oral or written instructions for interpreting music properly
- Imagine how to furnish and decorate a room



Suggested activities to get experience

Join a speech club, art club, drama club, debate team, junior theater, or choir
Take dance, crafts, ceramics or art classes
Take skiing, tumbling or gymnastics
Make models of buildings you design
Make clay items
Sketch and paint
Make jewelry
Visit art galleries and art shows
Take music lessons
Take a class in computer assisted drawing

Related Career Areas: Arts, Audio-Video Technology & Communication. **Work Groups:** Artistic, Visual Arts, Performing Arts: Drama, Performing Arts: Music, Performing Arts: Dance, Craft Arts, Elemental Arts, Modeling. **Physical Performing, Sports**—Performing; **Physical Feats**—Performing.

* The number in parenthesis is the O*NET™ Version 20.1 code. For a complete description of this code, see <http://www.onetcenter.org/>.
Occupations may be looked up in the COPSsystem *Career Briefs Kit* alphabetically within Clusters.
Occupations may be looked up alphabetically in the *Occupational Outlook Handbook* at <http://www.bls.gov/ocol/>.

12 ARTS, SKILLED occupations involve application of artistic skill in the fields of photography, graphic arts and design. (See sample occupations below.)

Related courses of study:

ART - Arts, Commercial Art, Computer Graphics, Crafts, Drafting, Graphic Arts, Home Decoration, Photography

MATHEMATICS - Math



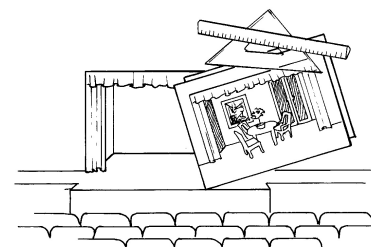
Graphic Arts

ADVERTISING ASSOCIATE (43-9031.00)*
ADVERTISING DESIGNER (27-1024.00)
COMPUTER TYPESETTER (43-9031.00)
CREATIVE DIRECTOR (43-9031.00)
DESKTOP OPERATOR (51-5111.00)
DESKTOP PUBLISHING SPECIALIST (43-9031.00)
DIGITAL PRINTER OPERATOR (51-9151.00)
DRAFTER, ARCHITECTURAL (17-3011.01)
ELECTRONIC IMAGER (43-9031.00)
ENGRAVER & ETCHER (51-9194.00)
GRAPHIC DESIGNER (27-1024.00)
MAPPING TECHNICIAN (17-3031.02)
PAINTING AND DECORATING WORKER (51-9123.00)
REPRODUCTION TECHNICIAN (51-9151.00)
SCANNER OPERATOR (51-5111.00)
SILK-SCREEN OPERATOR (51-9123.00)
STONE CARVER (51-9195.03)
WEB PUBLICATION DESIGNER (43-9031.00)

Design

AIRBRUSH ARTIST (51-9123.00)
AUDIO-VISUAL COLLECTIONS SPECIALIST (25-9011.00)
CAMERA OPERATOR (27-4031.00)
CERAMIC ARTIST (27-1012.00)
CINEMATOGRAPHER (27-4031.00)
COLORIST (27-1029.00)
CONSERVATION TECHNICIAN (25-4013.00)
CRAFT ARTIST (27-1012.00)
DECORATOR (POTTERY) (51-9123.00)
DIRECTOR OF PHOTOGRAPHY (27-4031.00)
DISPLAYER, MERCHANDISE (27-1026.00)
EXHIBIT DESIGNER (27-1027.00)
FLAT SURFACER, JEWEL (51-9022.00)
FLORAL DESIGNER (27-1023.00)
GEM & DIAMOND WORKER (51-9071.06)
GLASS BLOWER & FINISHER (51-9195.04)
JEWELRY WORKER (51-9071.07)
MUSEUM TECHNICIAN (25-4013.00)
OPTICAL EFFECTS CAMERA OPERATOR (27-4031.00)

PHOTOGRAPH RETOUCHER (51-9151.00)
PHOTOGRAPHER, AERIAL (27-4021.00)
PHOTOGRAPHER, COMMERCIAL (27-4021.00)
PHOTO., NEWS (PHOTOJOURNALIST) (27-4021.00)
PHOTOGRAPHER, PORTRAIT (27-4021.00)
PHOTOGRAPHER, SCIENTIFIC (27-4021.00)
PHOTOGRAPHIC PROCESS WORKER (51-9151.00)
PRECIOUS METAL WORKER (51-9071.07)
SET DESIGNER (27-1027.00)
SILVERSMITH (51-9071.07)
TAXIDERMIST (25-4013.00)
TILE DECORATOR (51-9123.00)
WATCHMAKER (51-2093.00)
WEB DESIGNER (27-1024.00)
WINDOW TRIMMER (27-1026.00)



Some skills and abilities needed in these jobs

- Apply artistic skills, such as painting, drawing, or modeling in practical ways
- Make finger and hand movements correspond with seeing to operate equipment, adjust instruments, use pens to make sketches or use measuring tools
- Select the tools, materials and methods which are best for each purpose
- Use your eyes, hands, and fingers skillfully to guide knives, pens, brushes, and modeling tools precisely
- Picture the way the finished product should look from computerized drawings
- Choose the most appropriate equipment to express an idea or create a particular effect
- Use fingers skillfully when making drawings
- Understand and apply artistic principles and techniques
- Perform detailed work with great accuracy
- Take pride in turning out work that appears attractive and meets the standards set by a customer or your supervisor
- Look at an object and notice tiny flaws which should be removed or repaired
- Understand and use blueprints, sketches, drawings and other kinds of directions
- Work to precise measurements
- Use arithmetic to measure, compute amount of materials to use, and to inspect a product to be sure it meets requirements

Suggested activities to get experience

Take crafts or ceramics classes
Take art classes
Draw cartoons
Sketch or paint posters
Join an art, media, or photography club

Enter photography or art contests
Do etchings with woodburning tools
Make models of cars and airplanes
Take photographs or make videos of friends, family, animals or scenery
Use a computer graphics program to design a newsletter or newspaper

Related Career Areas: Arts, Audio-Video Technology, & Communication. Work Groups: Artistic, Visual Arts, Craft Arts. Mechanical, Engineering Technology—Drafting.



Entertaining-Performing Arts

Acting and Directing	Education
Dance	Dance
Drama/Theater Arts	Drama
	Music

Fine Arts-Design

Architecture
Art
Art History
Ceramics Arts
Commercial Graphics
Crafts, Folk Art

11 & 12 ARTS, COLLEGE MAJORS

Music	Physical
Conducting	Education
Piano	Visual and
Voice	Performing Arts

Design & Visual Communications
Drawing
Fashion Design & Illustration
Film/Cin. Studies

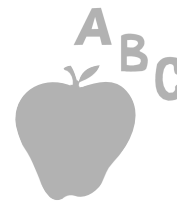
Film-Video Making
Fine Studio Arts
Graphic Design & Commercial Art
Industrial Design
Interior Design

Landscape Architecture
Medical Illustration
Metal and Jewelry Arts
Painting
Photography
Web Page Design



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13 SERVICE, PROFESSIONAL occupations include positions of high responsibility in caring for the personal needs and welfare of others in fields of social service, health and education. (See sample occupations below.)



Related courses of study: **ENGLISH** - English, Media, Minority Literature, Speech
LANGUAGE - French, German, Latin, Spanish

PHYSICAL EDUCATION

SOCIAL SCIENCE - Health, Humanities, History, Parenting & Child Development, Psychology,

Social Studies, Sociology, Student Government; **SCIENCE** - Anatomy, Biology, Chemistry, General and Life Science

MATHEMATICS - Advanced Math, Computer Literacy, Math

Instructional

ATHLETIC DIRECTOR (27-2032.00)*
ATHLETIC TRAINER (29-9091.00)
CAREER & TECHNICAL EDUC. TEACHER (25-2032.00)
COACH, PROFESSIONAL ATHLETES (27-2022.00)
DISTANCE LEARNING COORDINATOR (11-9039.01)
EDUCATION ADMIN., ELEMENTARY & SEC. (11-9032.00)
EDUCATION CONSULTANT (25-9031.00)
EDUCATION SPECIALIST (25-9031.00)
EDUCATIONAL PSYCHOLOGIST (19-3031.01)
FITNESS & WELLNESS COORDINATOR (11-9039.02)
HEALTH EDUCATOR (21-1091.00)
HEALTH SPECIALTIES TEACHER (25-1071.00)
INSTRUCTIONAL COORDINATOR (25-9031.00)
INSTRUCTOR, NURSING (25-1072.00)
INSTRUCTOR, PHYSICAL EDUCATION (39-9031.00)
OCCUPATIONAL THERAPIST (29-1122.00)
PRESCHOOL ADMINISTRATOR (11-9031.00)
PRINCIPAL (11-9032.00)
RECREATIONAL THERAPIST (29-1125.00)
SCHOOL PSYCHOLOGIST (19-3031.01)
SOCIAL WORKER, SCHOOL (21-1021.00)
SPORTS OFFICIAL (27-2023.00)
TEACHER, ADULT EDUCATION (25-3011.00)
TEACHER, ELEMENTARY (25-2021.00)
TEACHER, KINDERGARTEN (25-2012.00)
TEACHER, MIDDLE SCHOOL (25-2022.00)
TEACHER, SECONDARY (25-2031.00)
TEACHER, SPECIAL ED., ELEMENTARY (25-2052.00)
TEACHER, SPECIAL ED., MIDDLE SCHOOL (25-2053.00)
TEACHER, SPECIAL ED., SECONDARY (25-2054.00)
TUTOR (25-3099.02)
VOCATIONAL COUNSELOR (21-1012.00)
VOCATIONAL EDUCATION TEACHER (25-1194.00)

Social-Health

ANESTHESIOLOGIST ASSISTANT (29-1071.01)
ART THERAPIST (29-1125.01)
CAREER COUNSELOR (21-1012.00)
CASE MANAGER (21-1023.00)
CASEWORKER (21-1021.00)
CHIROPRACTOR (29-1011.00)
CLERGY (RELIGIOUS WORKERS) (21-2011.00)
CLINICAL NURSE SPECIALIST (29-1141.04)
COMMUNITY HEALTH WORKER (21-1094.00)
COUNSELOR (21-1012.00)
CRITICAL CARE NURSE (29-1141.03)
DENTIST (29-1021.00)
DERMATOLOGIST (29-1069.02)
DIRECTOR, RELIGIOUS ACTIVITIES (21-2021.00)
EQUAL-OPPORTUNITY REP. (13-1041.03)
ERGONOMIST (17-2112.01)
EXERCISE PHYSIOLOGIST (29-1128.00)
FAMILY & GENERAL PRACTITIONER (29-1062.00)
GENETIC COUNSELOR (29-9092.00)
GERONTOLOGIST (19-3041.00)
GRIEF COUNSELOR (21-1014.00)
HEALTH SERVICES MANAGER (11-9111.00)
HOSPITALIST (29-1069.03)
INDUSTRIAL-ORG. PSYCHOLOGIST (19-3032.00)
INFORMATICS NURSE SPECIALIST (15-1121.01)
INTERNIST (29-1063.00)
MARRIAGE & FAMILY THERAPIST (21-1013.00)
MENTAL HEALTH COUNSELOR (21-1014.00)
MUSIC THERAPIST (29-1125.02)
NATUROPATHIC PHYSICIAN (29-1199.04)
NURSE ANESTHETIST (29-1151.00)
NURSE MIDWIFE (29-1161.00)
NURSE PRACTITIONER (29-1171.00)

NURSE, REGISTERED (29-1141.00)

OBSTETRICIAN (29-1064.00)
OPTOMETRIST (29-1041.00)
ORTHODONTIST (29-1023.00)
ORTHOTIST (29-2091.00)
OSTEOPATH (29-1063.00)
PEDIATRICIAN (29-1065.00)
PERIODONTIST (29-1021.00)
PHYSICAL REHABILITATION PHYSICIAN (29-1069.08)
PHYSICAL THERAPIST (29-1123.00)
PHYSICIAN (29-1062.00)
PHYSICIAN ASSISTANT (29-1071.00)
PLASTIC SURGEON (29-1067.00)
PODIATRIST (29-1081.00)
PREVENTATIVE MED. PHYSICIAN (29-1069.09)
PROBATION & PAROLE OFFICER (21-1092.00)
PROSTHETIST (29-2091.00)
PSYCHIATRIC NURSE (29-1141.02)
PSYCHIATRIC TECHNICIAN (29-2053.00)
PSYCHIATRIST (29-1066.00)
PSYCHOLOGIST, CLINICAL (19-3031.02)
PSYCHOLOGIST, COUNSELING (19-3031.03)
PSYCHOLOGIST, SOCIAL (19-3031.02)
PSYCHOMETRIST (19-3031.01)
REHABILITATION COUNSELOR (21-1015.00)
REHABILITATION PHYSICIAN (29-1069.08)
SCHOOL COUNSELOR (21-1012.00)
SOCIAL WORKER (21-1022.00)
SOCIAL WORKER, MENTAL HEALTH (21-1023.00)
SOCIOLOGIST (19-3041.00)
SPEECH PATHOLOGIST (29-1127.00)
SPORTS MEDICINE PHYSICIAN (29-1069.11)
SUBSTANCE ABUSE COUNSELOR (21-1011.00)
VISION REHABILITATION THERAPIST (29-1122.01)

Some skills and abilities needed in these jobs

- Care about people, their needs and their welfare enough to want to help in some way
- Gain the trust and confidence of people
- Use logical thinking and special training to counsel others
- Deal with people when they are in pain or under stress
- Make important decisions using your own judgment
- Understand and use theories and methods of research in your particular field
- Understand & use the basic principles of effective teaching
- Develop special skills and knowledge in one or more academic or vocational subjects
- Speak & write clearly & effectively to influence people's actions and have your plans understood and followed
- Develop a good teacher-student relationship
- Deal both with things that are known and obvious and which frequently are not easy to recognize or understand
- Plan and direct programs and the activities of others
- Identify problems and make decisions based on your experience and judgment as well as on established facts
- Understand the way government programs and social service organizations function
- Understand technical information you might get from supervisors, charts, reference books or manuals

Suggested activities to get experience

Join a speech, social-service or cultural awareness club
Be a teacher's aide or a tutor
Participate in individual or team sports
Do volunteer work for a charitable cause
Take part-time jobs babysitting
Do volunteer work caring for shut-ins
Be a volunteer at a hospital
Be a camp counselor
Take first-aid courses
Officiate or coach sporting events
Take student government or run for class office



Related Career Areas: Education & Training; Health Science; Human Services. **Work Groups:** *Scientific, Medical Sciences. Humanitarian, Social Services, Nursing, Therapy and Specialized Teaching Services, Child and Adult Care. Leading - Influencing, Educational and Library Services, Social Research, Services Administration. Physical Performing, Sports—Coaching and Officiating.*

13 & 14 SERVICE, COLLEGE MAJORS

Instructional

Counselor
Education
Curriculum & Instruction
Education
Educational Admin.
Elem., Middle & Secondary Ed.
Health & Phys. Ed.
Higher Education
Administration
Secondary Teacher
Education

Special Education
Sports & Fitness
Admin.
Technology
Teacher
Education

Social-Health

Behavioral Sci.
Child Develop.
Cosmetology
Counseling
Criminology
Educational
Psychology
Ethnic & Cultural
Studies
Gerontology
Human Services
Industrial Psych.
Law Enforcement
Nursing

Occupational Safety & Health
Occupational Therapy
Parks & Rec. Studies
Physical Therapy
Psychology
Public Health

Religious Studies
Social Sciences
Social Work
Speech Pathology
Tourism Services
Voc. Rehab. Coun.
Women's Studies

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14 **SERVICE, SKILLED** occupations involve providing services to persons and catering to the tastes, desires and welfare of others in fields of personal service, social and health related services, and protection and transportation. (See *sample occupations below*.)

Related courses of study:

FAMILY & CONSUMER SCIENCE - Clothing, Food Services, Health

SOCIAL SCIENCE - Parenting & Child Development, Psychology, Social Studies, Sociology

SCIENCE - Biology, General and Life Science



SCHOOL SERVICE - Cafeteria

Personal

AEROBICS INSTRUCTOR (39-9031.00)*
AMUSEMENT ATTENDANT (39-3091.00)
ANIMAL CONTROL WORKER (33-9011.00)
BAGGAGE PORTER/BELLHOP (39-6011.00)
BARBER (39-5011.00)
BARISTA (35-3022.01)
BARTENDER (35-3011.00)
BEAUTY CARE SPECIALIST (39-5012.00)
CADDY (39-3091.00)
CLEANER, COMMERCIAL (37-2011.00)
CONCIERGE (39-6012.00)
CONDUCTOR, RAILROAD (53-4031.00)
COOK, PRIVATE (35-2013.00)
COSMETOLOGIST (39-5012.00)
COUNTER ATTENDANT, CAFE (35-3022.00)
COURIER/MESSENGER (43-5021.00)
CRUISE SHIP WORKER (35-3031.00)
DINING ROOM ATTENDANT (35-9011.00)
DOG WALKER (39-9099.00)
DRESSING ROOM ATTENDANT (39-3093.00)
ESTHETICIAN (39-5094.00)
FLIGHT ATTENDANT (53-2031.00)
FUNDRAISER (13-1131.00)
FUNERAL ATTENDANT (39-4021.00)
FUNERAL DIRECTOR (39-4031.00)
GAMING DEALER (39-3011.00)
GAMING SUPERVISOR (39-1011.00)
GUIDE, TOUR & TRAVEL (39-7011.00)
HAIR STYLIST (39-5012.00)
HOST/HOSTESS (35-9031.00)
HOUSEKEEPER (37-2012.00)
HOUSEKEEPING MANAGER (37-1011.00)
JANITOR (37-2011.00)
LAUNDRY ATTENDANT (51-6011.00)
LOBBY ATTENDANT (39-3031.00)
MAIL CARRIER (43-5052.00)
MAKEUP ARTIST (39-5091.00)
MANICURIST (39-5092.00)
MEETING & CONVENTION PLANNER (13-1121.00)
MESSENGER, OFFICE (43-5021.00)
NEWSPAPER CARRIER (41-9091.00)
PERSONAL TRAINER (39-9031.00)
RESIDENTIAL ADVISOR (39-9041.00)
SHAMPOOER (39-5093.00)
SKIN CARE SPECIALIST (39-5094.00)
SPA MANAGER (39-1021.01)
SWIMMING POOL SERVICER (37-3011.00)

TRANSPORTATION ATTENDANT (53-6061.00)
TRAVEL AGENT (41-3041.00)
USHER (39-3031.00)
WAITER/WAITRESS (35-3031.00)
WARDROBE ATTENDANT (39-3092.00)
WEDDING CONSULTANT (13-1121.00)
WIG STYLIST (39-5012.00)
YOGA INSTRUCTOR (39-9031.00)

Social-Health

ACUPUNCTURIST (29-1199.01)
ACUTE CARE NURSE (29-1141.01)
ADAPTIVE PHYSICAL ED. SPECIALIST (25-2059.01)
AMBULANCE DRIVER (53-3011.00)
BEHAVIORAL SPECIALIST (31-2011.00)
BIRTH ATTENDANT (31-1014.00)
CHILD CARE WORKER (39-9011.00)
COMMUNITY HEALTH WORKER (21-1094.00)
COUNSELOR, CAMP (39-9032.00)
EMERGENCY (PARAMEDIC) TECHNICIAN (29-2041.00)
FIRST-AID ATTENDANT (31-9092.00)
HEALTH INSPECTOR (29-9011.00)
HEARING AID SPECIALIST (29-2092.00)
HOME HEALTH AIDE (31-1011.00)
HUMAN SERVICE WORKER (21-1093.00)
MASSAGE THERAPIST (31-9011.00)
MENTAL HEALTH TECHNICIAN (29-2053.00)
MIDWIFE (29-9099.01)
NANNY (39-9011.01)
NURSE, LICENSED PRACTICAL (29-2061.00)
NURSE'S AIDE (31-1014.00)
OCCUPATIONAL THERAPY AIDE (31-2012.00)
ORDERLY (31-1015.00)
PEACE CORPS VOLUNTEER (21-1093.00)
PERSONAL HOME CARE AIDE (39-9021.00)
PHYSICAL THERAPIST ASSISTANT (31-2021.00)
PHYSICAL THERAPY AIDE (31-2022.00)
PSYCHIATRIC AIDE (31-1013.00)
RECREATION LEADER (39-9032.00)
SOCIAL SERVICE AIDE (21-1093.00)
SPEECH PATHOLOGY ASSISTANT (31-9099.01)
TEACHER ASSISTANT (25-9041.00)
TEACHER, PRESCHOOL (25-2011.00)

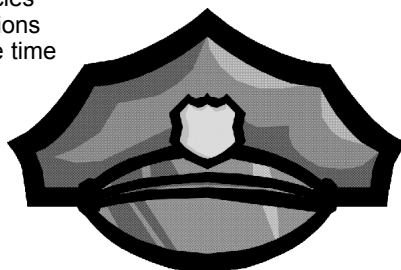
Protective-Transportation

ARMORED CAR GUARD (33-9032.00)
BAILIFF (33-3011.00)
BODYGUARD (33-9032.00)

BORDER PATROL AGENT (33-3051.01)
BUS DRIVER, PUBLIC (53-3021.00)
BUS DRIVER, SCHOOL (53-3022.00)
CHAUFFEUR (53-3041.00)
CLEANER, VEHICLE (53-7061.00)
CORRECTIONAL OFFICER (33-3012.00)
CORRECTIONAL OFFICER, SUPER. (33-1011.00)
CRIMINAL INVESTIGATOR (33-3021.03)
CROSSING GUARD (33-9091.00)
CUSTOMS INSPECTOR (33-3021.05)
DETECTIVE (33-3021.01)
DRIVER'S LICENSE EXAMINER (13-1041.02)
FIRE INSPECTOR (33-2021.01)
FIRE INVESTIGATOR (33-2021.02)
FIREFIGHTER (33-2011.00)
GAMING SURVEILLANCE OFFICER (33-9031.00)
HIGHWAY PATROL OFFICER (33-3051.01)
IMMIGRATION INSPECTOR (33-3021.05)
INSTRUCTOR, DRIVING (25-3021.00)
INTELLIGENCE ANALYST (33-3021.06)
LIFEGUARD (33-9092.00)
MUNICIPAL FIRE PREV. SUPERVISOR (33-1021.01)
PARKING ENFORCEMENT OFFICER (33-3041.00)
PARKING LOT ATTENDANT (53-6021.00)
POLICE OFFICER (33-3051.01)
POLICE SERGEANT (33-1012.00)
SECURITY GUARD (33-9032.00)
SECURITY MANAGER (11-9199.07)
SECURITY REP., AIRLINE (33-9093.00)
SERVICE STATION ATTENDANT (53-6031.00)
SHERIFF, DEPUTY (33-3051.03)
SKI PATROL (33-9092.00)
SPECIAL AGENT, FBI (33-3021.03)
SUBWAY/STREETCAR OPERATOR (53-4041.00)
TAXI DRIVER (53-3041.00)
TRANSIT & RAILROAD POLICE (33-3052.00)
TRANSPORTATION INSPECTOR (53-6051.00)
TRANSPORT. SECURITY SCREENER (33-9093.00)

Some skills and abilities needed in these jobs

- Want to help people
- Talk with people to find out what services they want and to give them information
- Communicate with & assist the young, elderly, or sick
- Use arms, eyes, hands, and fingers skillfully
- Stand or walk, sometimes for long periods
- Move fingers and hands easily and quickly to handle things like dishes, money and merchandise
- Lift and carry heavy or awkward items
- Write and speak clearly
- Talk easily with all kinds of people to put them at ease
- Think clearly and react quickly in emergencies
- Use practical thinking to conduct investigations
- Follow written and oral instructions and use time schedules, meters, and traffic regulations
- Move eyes, hands and feet together to control the movements of a vehicle
- Read and understand laws and regulations to be enforced



Suggested activities to get experience

- Take a delivery route
- Take first-aid courses
- Take a part-time job in a restaurant
- Serve food at receptions
- Usher at social activities
- Be in charge of sports equipment
- Do volunteer work caring for shut-ins, in a hospital, or for a charitable cause
- Join a service club; work in a health spa
- Cut friends' hair; do make-up in amateur plays

Related Career Areas: Education & Training; Hospitality and Tourism; Human Services; Law, Public Safety & Security. Work Groups: Accommodating, Hospitality Services, Barber & Beauty Services, Passenger Services, Customer Services, Attendant Services. Leading - Influencing, Regulations Enforcement. Mechanical, Land & Water Vehicle Operation, Elemental Work: Mechanical—Cleaning and Maintenance. Humanitarian, Child and Adult Care. Protective, Safety & Law Enforcement, Security Services.

* The number in parenthesis is the O*NET™ Version 20.1 code. For a complete description of this code, see <http://www.onetcenter.org/>. Occupations may be looked up in the COPSsystem *Career Briefs Kit* alphabetically within Clusters. Occupations may be looked up alphabetically in the *Occupational Outlook Handbook* at <http://www.bls.gov/oco/>.

USING YOUR SCORES IN CAREER PLANNING

Identify the areas (for example, Business, Science) and the level (either Skilled or Professional) in which you have high or low interest, ability, and values. Relate your highest interest areas to sample occupations listed under each Career Cluster on pages 2 through 14. Sample occupations are further classified into subgroups

within each Career Cluster. The level of interests, abilities, and values and, in many cases, the related skills required for successful performance of individual jobs within the Cluster are highly transferable to other jobs in the Cluster. Note how certain skills are required in many different jobs as you review different occupations.

Check the Career Clusters you are considering.

☐ 1. SCIENCE, Professional ☐ 4. TECHNOLOGY, Skilled ☐ 7. BUSINESS, Professional ☐ 10. COMMUNICATION ☐ 13. SERVICE, Professional ☐ 2. SCIENCE, Skilled ☐ 5. CONSUMER ECONOMICS ☐ 8. BUSINESS, Skilled ☐ 11. ARTS, Professional ☐ 14. SERVICE, Skilled ☐ 3. TECHNOLOGY, Professional ☐ 6. OUTDOOR ☐ 9. CLERICAL ☐ 12. ARTS, Skilled						
A. List the Career Clusters you are considering.	B. Choose five occupations from each Career Cluster in column A .	C. Look up occupations listed in B in sources of information.	D. Choose three occupations from your list in column B .	E. List required skills and abilities for job performance in these three occupations.	F. List courses and activities available to prepare you for these three occupations.	
		COPSys™ Career Bank COPSys™ Cluster Booklets OOH ONET™ OTHER				
15	1. _____	COPSys™ Career Bank COPSys™ Cluster Booklets OOH ONET™ OTHER	1. _____	1. _____ 2. _____ 3. _____ 4. _____ 5. _____	1. _____ 2. _____ 3. _____ 4. _____ 5. _____	
	2. _____		2. _____	2. _____ 3. _____ 4. _____ 5. _____	2. _____ 3. _____ 4. _____ 5. _____	
	3. _____		3. _____	3. _____ 4. _____ 5. _____	3. _____ 4. _____ 5. _____	

Discuss your occupational plans

You may wish to use the service of a career counselor to get help in understanding and using information in your career decision making. Counselors and instructors may also have other information about your record which they can discuss with you.

Remember, plan to use the information about your occupational interests in career planning. Discuss your scores on the COPSys with your family, friends, or others who can help you.

Now go to page 16.

PROGRAM PLANNING GUIDE

Complete the following educational program planning guide to include activities and subject courses by semester and summer session. Use the information on pages 1 through 14 to help you select your activities and subject courses. Use a pencil so your Program Planning Guide can be changed because you may want to revise it later.

SCHOOL YEAR	Semester Grade	SCHOOL YEAR	Semester Grade	SCHOOL YEAR	Semester Grade	SCHOOL YEAR	Semester Grade
SUBJECT	1st 2nd	SUBJECT	1st 2nd	SUBJECT	1st 2nd	SUBJECT	1st 2nd

SUMMER SCHOOL

ACTIVITIES

ACTIVITIES	1st 2nd	ACTIVITIES	1st 2nd	ACTIVITIES	1st 2nd	ACTIVITIES	1st 2nd

LOCAL JOB INTERVIEW FORM

Considering the occupations you have selected for exploration, choose one job and find local places where you can go to talk to someone regarding this job.

A. List people you know or people working in this field who know where to apply for this job. Find places where you can apply.

Places where employment may be found

Persons to contact

How to get there

- 1.
- 2.
- 3.

B. List questions to ask during the interview.

Outlook for jobs available now and in the future

Skills needed

Hours and work place

Pay

C. Describe the interview and information gained from this activity.

Job description

Pay

Training needed

Future outlook for this job

D. Match your qualifications against the job at this time.

What training and work experience do you have that relate to this job? Is improvement needed?

What kind of work required on this job interests you?

Do you feel your background will fit this job? Explain.

Who can give you a personal recommendation? (List names, addresses and phone numbers)

- 1.
- 2.
- 3.

E. Are you still interested in this job?

F. If this job does not interest you now, choose another job. Find local sources of information about job openings and repeat this activity A through F on a separate page.

