

HANDBOOK OF OCCUPATIONAL GROUPS AND FAMILIES

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INTRODUCTION

The Handbook of Occupational Groups and Families provides agencies with a starting point to classify positions. For additional information, please refer to the [Introduction to the Position Classification Standards](#).

The Handbook of Occupational Groups and Families is divided into two parts:

PART I White Collar Occupational Series
 Defines occupations and lists the series names and codes used in classifying white collar jobs in the Federal Government. Previous editions of this document referred to these occupations as “General Schedule System Occupations.”

PART II Trade, Craft, or Labor Occupational Series
 Defines occupations and lists the occupation names and codes used in classifying trade, craft or labor jobs in the Federal Government. Previous editions of this document referred to these occupations as “Federal Wage System Occupations.”

Glossary

TERM	DEFINITION
Classification Standard	Classification standards are issued by OPM to relate the grade level definitions in title 5 to specific work situations and thereby provide the basis for assigning to each position the appropriate title, series, and grade. (Source: Introduction to the Position Classification Standards , TS-134, July 1995)
Federal Wage System	5 U.S.C. 5102 (c)(7) exempts from coverage under the General Schedule those “employees in recognized trades or crafts, or other skilled mechanical crafts, or in unskilled, semi-skilled, or skilled manual-labor occupations, and other employees including foremen and supervisors in positions having trade, craft, or laboring experience and knowledge as the paramount requirement.” Such positions are covered by the Federal Wage System.
Flysheets	Flysheets provide some information about a series and may suggest standards and guides to use for determining grade levels under the General Schedule or Federal Wage System, but include no grade level criteria.
Functional Guide and Standards	Functional guides and functional standards are used to determine the grade of broad categories of Federal work classified under the General Schedule (GS) Classification System and the Federal Wage System (FWS), respectively.

General Schedule	The classification system covered by chapter 51 of title 5. It includes a range of levels of difficulty and responsibility for covered positions from grades GS-1 to GS-15. It is designated by “GS” for positions at all of these grade levels. (Source: Introduction to the Position Classification Standards , TS-134, July 1995)
Job Family (for Trade, Craft and Labor)	A job family is a broad grouping of trades, craft, and labor occupations related in one or more ways such as: similarity of functions performed, transferability of knowledge and skills from one occupation to another, or similarity of materials or equipment worked on. (Source: Federal Wage System Job Grading System , TS-44, Sep 1981)
Job Family Standard (for White Collar)	A Job Family Standard (JFS) covers a group of related white collar occupations or series. (Source: The Classifier’s Handbook , TS-107, Aug 1991)
Occupational Group	A major category of white collar occupations, embracing a group of associated or related occupations; e.g., the Accounting and Budget Group, GS-0500; the Engineering and Architecture Group, GS-0800; the General Administrative, Clerical, and Office Services Group, GS-0300). (Source: Introduction to the Position Classification Standards , TS-134, July 1995)
Series	A subdivision of an occupational group or job family consisting of positions similar as to specialized line of work and qualification requirements. Series are designated by a title and number such as the Accounting Series, 0510; the Secretary Series, 0318; the Microbiology Series, 0403. (Source: Introduction to the Position Classification Standards , TS-134, July 1995)
Trade, Craft, and Labor Occupations	If a position clearly requires trades, craft, or laboring experience and knowledge as a requirement for the performance of its primary duty, and this requirement is paramount, the position is in a trade, craft, or labor occupation regardless of its organizational location or the nature of the activity in which it exists. (Source: Introduction to the Position Classification Standards , TS-134, July 1995)
White Collar Occupations	A position is considered white collar, even if it requires physical work, if its primary duty requires knowledge or experience of an administrative, clerical, scientific, artistic, or technical nature not related to trade, craft, or manual-labor work. (Source: Introduction to the Position Classification Standards , TS-134, July 1995)

General Information

- This handbook does not provide grading criteria. For positions classified under the General Schedule, position classification standards and job family standards provide grading criteria. Job grading standards provide grading criteria for trade, craft, and labor positions classified under the Federal Wage System.
- A single asterisk (*) in this handbook indicates a published position classification standard or job grading standard exists for that series. Two asterisks (**) indicate a flysheet exists for that series. Three asterisks (***) indicate a published job family position classification standard exists for that series.
- For additional information regarding the classification of positions as Professional, Administrative, Technical, Clerical, or Other (PATCO), please refer to the [Introduction to the Position Classification Standards](#), TS-134, July 1995).
- Series which are [underlined](#) are hyperlinked to the corresponding standard for convenience.
- All agencies may use any occupational series in Parts I and II of this handbook.
- The following series are for the sole use of the agencies and uses specified below.

Series Number	PATCO Category	Series Name	Agency / Use
0347	A	GAO Evaluator	General Accounting Office only.
0570	A	Financial Institution Examining	Federal Reserve System, Federal Deposit Insurance Corporation, Comptroller of the Currency, and the Office of Thrift Supervision only.
0580	A	Credit Union Examiner	National Credit Union Administration only.
0898	O	Engineering Trainee	National Institute of Standards and Technology (Department of Commerce) only.
0935	P	Administrative Law Judge	Use with Pay Plan code AL (Administrative Law Judges) only.
1002	T	Arts and Information Support	Department of Defense (NSPS only). Not valid for submission to the Office of Personnel Management's Central Personnel Data File.
1108	T	Business Support	Department of Defense (NSPS only). Not valid for submission to the Office of Personnel Management's Central Personnel Data File.
1398	O	Physical Science Trainee	National Institute of Standards and Technology (Department of Commerce) only.
1598	O	Mathematics or Computer Science Trainee	National Institute of Standards and Technology (Department of Commerce) only.
1703	P	Education Specialist	Department of Defense (NSPS only). Not valid for submission to the Office of Personnel Management's Central Personnel Data File.
2186	A	Technical Systems Program Manager	Federal Aviation Administration (Department of Transportation) only.

2203	C	Computer Operator	Department of Defense (NSPS only). Not valid for submission to the Office of Personnel Management's Central Personnel Data File.
2204	T	Computer Technician	Department of Defense (NSPS only). Not valid for submission to the Office of Personnel Management's Central Personnel Data File.

CHANGES IN THIS EDITION OF THE HANDBOOK

Series	Name	Action
0081	Fire Protection and Prevention	Revises this series definition as a result of a recent occupational study.
0351	Printing Clerical	Cancels this series as a result of a recent occupational study.
0400	Biological Sciences Group	Renames this occupational group, the Natural Resources Management and Biological Sciences Group, 0400, as a result of a recent occupational study.
0401	General Biological Science	Renames this series the General Natural Resources Management and Biological Sciences Series, 0401, and revises the series definition as a result of a recent occupational study.
0403	Microbiology	Revises this series definition as a result of a recent occupational study.
0405	Pharmacology	Revises this series definition as a result of a recent occupational study.
0406	Agricultural Extension	Cancels this series as a result of a recent occupational study.
0408	Ecology	Revises this series definition as a result of a recent occupational study.
0410	Zoology	Revises this series definition as a result of a recent occupational study.
0413	Physiology	Revises this series definition as a result of a recent occupational study.
0414	Entomology	Revises this series definition as a result of a recent occupational study.
0415	Toxicology	Revises this series definition as a result of a recent occupational study.
0430	Botany	Revises this series definition as a result of a recent occupational study.
0434	Plant Pathology	Revises this series definition as a result of a recent occupational study.
0435	Plant Physiology	Revises this series definition as a result of a recent occupational study.
0436	Plant Protection and Quarantine	Cancels this series as a result of a recent occupational study.

0437	Horticulture	Revises this series definition as a result of a recent occupational study.
0440	Genetics	Revises this series definition as a result of a recent occupational study.
0454	Rangeland Management	Revises this series definition as a result of a recent occupational study.
0457	Soil Conservation	Revises this series definition as a result of a recent occupational study.
0460	Forestry	Revises this series definition as a result of a recent occupational study.
0470	Soil Science	Revises this series definition as a result of a recent occupational study.
0471	Agronomy	Revises this series definition as a result of a recent occupational study.
0480	General Fish and Wildlife Administration	Renames this series the Fish and Wildlife Administration Series, 0480, and revises the series definition as a result of a recent occupational study.
0482	Fish Biology	Renames this series, the Fish Biology Series, 0482, and revises this series definition as a result of a recent occupational study.
0485	Wildlife Refuge Management	Revises this series definition as a result of a recent occupational study.
0486	Wildlife Biology	Revises this series definition as a result of a recent occupational study.
0487	Animal Science	Revises this series definition as a result of a recent occupational study.
0493	Home Economics	Cancels this series as a result of a recent occupational study.
0635	Corrective Therapist	Renames this series from Corrective Therapist Series to Kinesiotherapy, 0635.
0802	Engineering Technician	Renames this series, Engineering Technical, 0802, and revises this series definition as a result of a recent occupational study.
0809	Construction Control	Renames this series, Construction Control Technical, 0809, and revises this series definition as a result of a recent occupational study.

0817	Surveying Technician	Renames this series, Survey Technical, 0817, and revises this series definition as a result of a recent occupational study.
0818	Engineering Drafting	Cancels this series as a result of a recent occupational study.
0856	Electronics Technician	Renames this series, Electronics Technical, 0856, and revises this series definition as a result of a recent occupational study.
0873	Ship Surveying	Renames this series, Marine Survey Technical, 0873, and revises this series definition as a result of a recent occupational study.
0895	Industrial Engineering Technician	Renames this series, Industrial Engineering Technical, 0895, and revises this series definition as a result of a recent occupational study.
0958	Pension Law Specialist Series	Renames this series, Employee Benefits Law Series, 0958, and revises this series definition as a result of a recent occupational study.
1144	Commissary Store Management Series	Renames this series, Commissary Management Series, 1144, and revises this series definition as a result of a recent occupational study.
1420	Archivist	Revises this series definition as a result of a recent occupational study.
1500	Mathematics and Statistics Group	Renames this occupational group the Mathematical Sciences Group as a result of a recent occupational study.
1501	General Mathematics and Statistics	Establishes this series as a result of a recent occupational study.
1510	Actuary	Renames this series, Actuarial Science, 1510, and revises this series definition as a result of a recent occupational study.
1515	Operations Research	Revises this series definition as a result of a recent occupational study.
1520	Mathematics	Revises this series definition as a result of a recent occupational study.
1529	Mathematical Statistician	Renames this series, Mathematical Statistics, 1529, and revises this series definition as a result of a recent occupational study.
1530	Statistician	Renames this series, Statistics, 1530, and revises this series definition as a result of a recent occupational study.

1540	Cryptography	<p>Cancels this series as a result of a recent occupational study.</p> <p>Reserves the series name and code “1540” for information purposes only.</p>
1601	Equipment, Facilities, and Services	Redesignates this series as administrative only, and revises this series definition as a result of a recent occupational study.
1603	Equipment, Facilities, and Services Assistance	Establishes this series as a result of a recent occupational study.
1630	Cemetery Administration	Renames this series to Cemetery Administration Services Series, 1630, and revises this series definition as a result of a recent occupational study.
1640	Facility Management	Renames this series to Facility Operations Services Series, 1640, and revises this series definition as a result of a recent occupational study.
1654	Printing Management	Renames this series to Printing Services Series, 1654, and revises this series definition as a result of a recent occupational study.
1658	Laundry and Dry Cleaning Plant Management	Renames this series to Laundry Operations Services Series, 1658, and revises this series definition as a result of a recent occupational study.
1667	Steward	Renames this series to Food Services Series, 1667, and revises this series definition as a result of a recent occupational study.
1670	Equipment Specialist	Renames this series to Equipment Services Series, 1670, and revises this series definition as result of a recent occupational study.
1699	Equipment and Facilities Management Student Trainee	Renames this series to the Equipment, Facilities, and Services Student Trainee Series, 1699 as a result of a recent occupational study.
1881	Customs and Border Protection Interdiction Series	Establishes this series covering white collar work involving aviation law enforcement operations as a result of a recent occupational study.
1895	Customs and Border Protection Series	Establishes this series covering white collar work involved in customs and immigration examinations as a result of a recent occupational study.

PART I

Outline of Position Classification Plan for White Collar Occupational Groups and Series

0000 – MISCELLANEOUS OCCUPATIONS GROUP (NOT ELSEWHERE CLASSIFIED)

Correctional Institution Administration Series**	0006	Chaplain Series*	0060
Correctional Officer Series*	0007	Clothing Design Series*	0062
Bond Sales Promotion Series	0011	Fingerprint Identification Series*	0072
Safety and Occupational Health		Security Administration Series*	0080
Management Series*	0018	Fire Protection and Prevention Series*	0081
Safety Technician Series**	0019	United States Marshal Series*	0082
Community Planning Series*	0020	Police Series*	0083
Community Planning Technician Series	0021	Nuclear Materials Courier Series**	0084
Outdoor Recreation Planning Series*	0023	Security Guard Series*	0085
Park Ranger Series*	0025	Security Clerical and Assistance Series**	0086
Environmental Protection Specialist Series*	0028	Guide Series*	0090
Environmental Protection Assistant Series	0029	Foreign Law Specialist Series**	0095
Sports Specialist Series	0030	General Student Trainee Series	0099
Funeral Directing Series	0050		

0100 – SOCIAL SCIENCE, PSYCHOLOGY, AND WELFARE GROUP

Social Science Series	0101	Geography Series*	0150
Social Science Aid and Technician Series	0102	Civil Rights Analysis Series*	0160
Social Insurance Administration Series*	0105	History Series*	0170
Unemployment Insurance Series**	0106	Psychology Series*	0180
Health Insurance Administration Series	0107	Psychology Aid and Technician Series	0181
Economist Series*	0110	Sociology Series**	0184
Economics Assistant Series	0119	Social Work Series*	0185
Foreign Affairs Series	0130	Social Services Aid and Assistant Series**	0186
International Relations Series	0131	Social Services Series*	0187
Intelligence Series**	0132	Recreation Specialist Series*	0188
Intelligence Aid and Clerk Series	0134	Recreation Aid and Assistant Series**	0189
Foreign Agricultural Affairs Series	0135	General Anthropology Series	0190
International Cooperation Series*	0136	Archeology Series**	0193
Manpower Research and Analysis Series	0140	Social Science Student Trainee Series	0199
Manpower Development Series*	0142		

0200 – HUMAN RESOURCES MANAGEMENT GROUP

Human Resources Management Series***	0201	Labor Management Relations Examining Series*	0244
Human Resources Assistance Series***	0203	Equal Employment Opportunity Series*	0260
Mediation Series*	0241	Human Resources Management	
Apprenticeship and Training Series*	0243	Student Trainee Series	0299

0300 – GENERAL, ADMINISTRATIVE, CLERICAL, AND OFFICE SERVICES GROUP

Miscellaneous Administration and Program Series**	0301	Management and Program Analysis Series**	0343
Messenger Series*	0302	Management and Program Clerical and Assistance Series*	0344
Miscellaneous Clerk and Assistant Series**	0303	Logistics Management Series**	0346
Information Receptionist Series*	0304	Equipment Operator Series*	0350
Mail and File Series*	0305	Data Transcriber Series*	0356
Correspondence Clerk Series*	0309	Coding Series**	0357
Clerk-Stenographer and Reporter Series**	0312	Equal Opportunity Compliance Series*	0360
Work Unit Supervising Series**	0313	Equal Opportunity Assistance Series*	0361
Secretary Series*	0318	Telephone Operating Series*	0382
Closed Microphone Reporting Series**	0319	Telecommunications Processing Series*	0390
Clerk-Typist Series**	0322	Telecommunications Series*	0391
Office Automation Clerical and Assistance Series**	0326	General Telecommunications Series**	0392
Computer Operation Series*	0332	Communications Clerical Series**	0394
Computer Clerk and Assistant Series*	0335	Administration and Office Support Student Trainee Series	0399
Program Management Series	0340		
Administrative Officer Series**	0341		
Support Services Administration Series*	0342		

0400 – NATURAL RESOURCES MANAGEMENT AND BIOLOGICAL SCIENCES GROUP

General Natural Resources Management and Biological Sciences Series***	0401	Rangeland Management Series***	0454
Microbiology Series***	0403	Range Technician Series**	0455
Biological Science Technician Series**	0404	Soil Conservation Series***	0457
Pharmacology Series	0405	Soil Conservation Technician Series**	0458
Ecology Series***	0408	Irrigation System Operation Series*	0459
Zoology Series***	0410	Forestry Series***	0460
Physiology Series***	0413	Forestry Technician Series**	0462
Entomology Series***	0414	Soil Science Series***	0470
Toxicology Series***	0415	Agronomy Series***	0471
Plant Protection Technician Series**	0421	Fish and Wildlife Administration Series***	0480
Botany Series***	0430	Fish Biology Series***	0482
Plant Pathology Series***	0434	Wildlife Refuge Management Series***	0485
Plant Physiology Series***	0435	Wildlife Biology Series***	0486
Horticulture Series***	0437	Animal Science Series***	0487
Genetics Series***	0440	Biological Science Student Trainee Series	0499

0500 – ACCOUNTING AND BUDGET GROUP

Financial Administration and Program Series***	0501	Voucher Examining Series***	0540
Financial Clerical and Technician Series***	0503	Civilian Pay Series***	0544
Financial Management Series*	0505	Military Pay Series***	0545
Accounting Series***	0510	Budget Analysis Series***	0560
Auditing Series***	0511	Budget Clerical and Assistance Series***	0561
Internal Revenue Agent Series***	0512	Tax Examining Series***	0592
Accounting Technician Series***	0525	Insurance Accounts Series***	0593
Tax Specialist Series***	0526	Financial Management Student Trainee Series	0599
Cash Processing Series***	0530		

0600 – MEDICAL, HOSPITAL, DENTAL, AND PUBLIC HEALTH GROUP

General Health Science Series.....	0601	Respiratory Therapist Series*.....	0651
Medical Officer Series*.....	0602	Pharmacist Series*.....	0660
Physician's Assistant Series.....	0603	Pharmacy Technician Series*.....	0661
Nurse Series*.....	0610	Optometrist Series*.....	0662
Practical Nurse Series*.....	0620	Restoration Technician Series*.....	0664
Nursing Assistant Series*.....	0621	Speech Pathology and Audiology Series*.....	0665
Medical Supply Aide and Technician Series*.....	0622	Orthotist and Prosthetist Series*.....	0667
Autopsy Assistant Series*.....	0625	Podiatrist Series.....	0668
Dietitian and Nutritionist Series*.....	0630	Medical Records Administration Series*.....	0669
Occupational Therapist Series*.....	0631	Health System Administration Series*.....	0670
Physical Therapist Series*.....	0633	Health System Specialist Series**.....	0671
Kinesiotherapy Series*.....	0635	Prosthetic Representative Series.....	0672
Rehabilitation Therapy Assistant Series*.....	0636	Hospital Housekeeping Management Series*.....	0673
Manual Arts Therapist Series*.....	0637	Medical Records Technician Series***.....	0675
Recreation/Creative Arts Therapist Series*.....	0638	Medical Support Assistance Series***.....	0679
Educational Therapist Series*.....	0639	Dental Officer Series*.....	0680
Health Aid and Technician Series**.....	0640	Dental Assistant Series*.....	0681
Nuclear Medicine Technician Series.....	0642	Dental Hygiene Series*.....	0682
Medical Technologist Series*.....	0644	Dental Laboratory Aid and Technician Series*.....	0683
Medical Technician Series*.....	0645	Public Health Program Specialist Series*.....	0685
Pathology Technician Series*.....	0646	Sanitarian Series**.....	0688
Diagnostic Radiologic Technologist Series*.....	0647	Industrial Hygiene Series*.....	0690
Therapeutic Radiologic Technologist Series**.....	0648	Consumer Safety Series*.....	0696
Medical Instrument Technician Series*.....	0649	Environmental Health Technician Series**.....	0698
Medical Technical Assistant Series*.....	0650	Medical and Health Student Trainee Series.....	0699

0700 – VETERINARY MEDICAL SCIENCE GROUP

Veterinary Medical Science Series*.....	0701	Veterinary Student Trainee Series.....	0799
Animal Health Technician Series**.....	0704		

0800 – ENGINEERING AND ARCHITECTURE GROUP**

General Engineering Series.....	0801	Electronics Engineering Series*.....	0855
Engineering Technician Series***.....	0802	Electronics Technical Series***.....	0856
Safety Engineering Series**.....	0803	Biomedical Engineering Series.....	0858
Fire Protection Engineering Series.....	0804	Aerospace Engineering Series**.....	0861
Materials Engineering Series**.....	0806	Naval Architecture Series*.....	0871
Landscape Architecture Series*.....	0807	Marine Survey Technical Series***.....	0873
Architecture Series*.....	0808	Mining Engineering Series*.....	0880
Construction Control Technical Series***.....	0809	Petroleum Engineering Series*.....	0881
Civil Engineering Series*.....	0810	Agricultural Engineering Series*.....	0890
Survey Technical Series***.....	0817	Ceramic Engineering Series.....	0892
Environmental Engineering Series*.....	0819	Chemical Engineering Series*.....	0893
Construction Analyst Series*.....	0828	Welding Engineering Series.....	0894
Mechanical Engineering Series*.....	0830	Industrial Engineering Technical Series***.....	0895
Nuclear Engineering Series*.....	0840	Industrial Engineering Series*.....	0896
Electrical Engineering Series*.....	0850	Engineering and Architecture Student Trainee Series.....	0899
Computer Engineering Series**.....	0854		

0900 – LEGAL AND KINDRED GROUP

General Legal and Kindred Administration Series**	0901	Legal Instruments Examining Series***	0963
Law Clerk Series	0904	Land Law Examining Series*	0965
General Attorney Series*	0905	Passport and Visa Examining Series*	0967
Estate Tax Examining Series	0920	Legal Assistance Series***	0986
Hearings and Appeals Series	0930	Tax Law Specialist Series	0987
Clerk of Court Series**	0945	Workers' Compensation Claims Examining Series*	0991
Paralegal Specialist Series*	0950	Railroad Retirement Claims Examining Series**	0993
Employee Benefits Law Series	0958	Veterans Claims Examining Series*	0996
Contact Representative Series***	0962	Claims Assistance and Examining Series***	0998
		Legal Occupations Student Trainee Series	0999

1000 – INFORMATION AND ARTS GROUP

General Arts and Information Series	1001	Music Specialist Series	1051
Interior Design Series**	1008	Theater Specialist Series	1054
Exhibits Specialist Series**	1010	Art Specialist Series	1056
Museum Curator Series*	1015	Photography Series*	1060
Museum Specialist and Technician Series*	1016	Audiovisual Production Series*	1071
Illustrating Series**	1020	Writing and Editing Series**	1082
Office Drafting Series*	1021	Technical Writing and Editing Series**	1083
Public Affairs Series*	1035	Visual Information Series**	1084
Language Specialist Series*	1040	Editorial Assistance Series*	1087
Language Clerical Series**	1046	Information and Arts Student Trainee Series	1099

1100 – BUSINESS AND INDUSTRY GROUP

General Business and Industry Series	1101	Industrial Specialist Series*	1150
Contracting Series*	1102	Production Control Series*	1152
Industrial Property Management Series*	1103	Financial Analysis Series*	1160
Property Disposal Series*	1104	Insurance Examining Series**	1163
Purchasing Series*	1105	Loan Specialist Series*	1165
Procurement Clerical and Technician Series*	1106	Internal Revenue Officer Series*	1169
Property Disposal Clerical and Technician Series*	1107	Realty Series*	1170
Public Utilities Specialist Series	1130	Appraising Series*	1171
Trade Specialist Series**	1140	Housing Management Series*	1173
Commissary Management Series*	1144	Building Management Series*	1176
Agricultural Program Specialist Series*	1145	Business and Industry Student Trainee Series	1199
Agricultural Marketing Series*	1146		
Agricultural Market Reporting Series*	1147		

1200 – COPYRIGHT, PATENT, AND TRADEMARK GROUP

Patent Technician Series	1202	Patent Classifying Series*	1223
Copyright Series	1210	Patent Examining Series*	1224
Patent Administration Series	1220	Design Patent Examining Series*	1226
Patent Adviser Series*	1221	Copyright and Patent Student Trainee Series	1299
Patent Attorney Series*	1222		

1300 – PHYSICAL SCIENCES GROUP

General Physical Science Series***	1301	Oceanography Series***	1360
Health Physics Series***	1306	Navigational Information Series*	1361
Physics Series***	1310	Cartography Series***	1370
Physical Science Technician Series***	1311	Cartographic Technician Series***	1371
Geophysics Series***	1313	Geodesy Series***	1372
Hydrology Series***	1315	Land Surveying Series***	1373
Hydrologic Technician Series***	1316	Geodetic Technician Series***	1374
Chemistry Series***	1320	Forest Products Technology Series***	1380
Metallurgy Series***	1321	Food Technology Series***	1382
Astronomy and Space Science Series***	1330	Textile Technology Series***	1384
Meteorology Series***	1340	Photographic Technology Series***	1386
Meteorological Technician Series***	1341	Document Analysis Series	1397
Geology Series***	1350	Physical Science Student Trainee Series	1399

1400 – LIBRARY AND ARCHIVES GROUP

Librarian Series*	1410	Archivist Series*	1420
Library Technician Series*	1411	Archives Technician Series*	1421
Technical Information Services Series*	1412	Library and Archives Student Trainee Series	1499

1500 – MATHEMATICAL SCIENCES GROUP

General Mathematics and Statistics Series***	1501	Statistics Series***	1530
Actuarial Science Series****	1510	Statistical Assistant Series*	1531
Operations Research Series***	1515	Cryptography Series	1540
Mathematics Series***	1520	Cryptanalysis Series	1541
Mathematics Technician Series*	1521	Computer Science Series**	1550
Mathematical Statistics Series***	1529	Mathematics and Statistics Student Trainee Series	1599

1600 – EQUIPMENT, FACILITIES, AND SERVICES GROUP

Equipment, Facilities, and Services Series***	1601	Laundry Operations Services Series ***	1658
Equipment, Facilities, and Services Assistance Series**	1603	Food Services Series***	1667
Cemetery Administration Services Series***	1630	Equipment Services Series***	1670
Facility Operations Services Series***	1640	Equipment, Facilities, and Services Student Trainee Series	1699
Printing Services Series***	1654		

1700 – EDUCATION GROUP

General Education and Training Series**	1701	Public Health Educator Series	1725
Education and Training Technician Series**	1702	Education Research Series**	1730
Education and Vocational Training Series**	1710	Education Services Series**	1740
Training Instruction Series**	1712	Instructional Systems Series**	1750
Vocational Rehabilitation Series*	1715	Education Student Trainee Series	1799
Education Program Series*	1720		

1800 – INVESTIGATION GROUP

General Inspection, Investigation, and Compliance Series**	1801	Alcohol, Tobacco and Firearms Inspection Series*	1854
Compliance Inspection and Support Series**	1802	Consumer Safety Inspection Series**	1862
General Investigating Series*	1810	Food Inspection Series*	1863
Criminal Investigating Series*	1811	Public Health Quarantine Inspection Series*	1864
Game Law Enforcement Series	1812	Customs and Border Protection Interdiction Series**	1881
Air Safety Investigating Series*	1815	Customs Patrol Officer Series*	1884
Immigration Inspection Series*	1816	Import Specialist Series*	1889
Mine Safety and Health Series*	1822	Customs Inspection Series*	1890
Aviation Safety Series*	1825	Customs Entry and Liquidating Series*	1894
Securities Compliance Examining Series	1831	Customs and Border Protection Series**	1895
Agricultural Commodity Warehouse Examining Series*	1850	Border Patrol Agent Series*	1896
		Customs Aid Series	1897
		Investigation Student Trainee Series	1899

1900 – QUALITY ASSURANCE, INSPECTION, AND GRADING GROUP

Quality Assurance Series*	1910	Agricultural Commodity Aid Series	1981
Agricultural Commodity Grading Series*	1980	Quality Inspection Student Trainee Series	1999

2000 – SUPPLY GROUP**

General Supply Series**	2001	Packaging Series**	2032
Supply Program Management Series**	2003	Supply Cataloging Series**	2050
Supply Clerical and Technician Series*	2005	Sales Store Clerical Series*	2091
Inventory Management Series**	2010	Supply Student Trainee Series	2099
Distribution Facilities and Storage Management Series**	2030		

2100 – TRANSPORTATION GROUP

Transportation Specialist Series	2101	Cargo Scheduling Series**	2144
Transportation Clerk and Assistant Series*	2102	Transportation Operations Series	2150
Transportation Industry Analysis Series*	2110	Dispatching Series**	2151
Railroad Safety Series*	2121	Air Traffic Control Series*	2152
Motor Carrier Safety Series*	2123	Air Traffic Assistance Series**	2154
Highway Safety Series**	2125	Marine Cargo Series*	2161
Traffic Management Series*	2130	Aircraft Operation Series*	2181
Freight Rate Series*	2131	Air Navigation Series*	2183
Transportation Loss and Damage Claims Examining Series	2135	Aircrew Technician Series*	2185
		Transportation Student Trainee Series	2199

2200 – INFORMATION TECHNOLOGY GROUP

Information Technology Management Series***	2210	Information Technology Student Trainee	2299
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Definitions of White Collar Occupational Groups and Series

0000 – MISCELLANEOUS OCCUPATIONS GROUP

This group includes all classes of positions the duties of which are to administer, supervise, or perform work that cannot be included in other occupational groups either because the duties are unique, or because they are complex and come in part under various groups.

Series in this group are:

0006 – [Correctional Institution Administration Series](#)**

This series covers positions that involve responsibility for managing, or participating in the overall management of correctional institutions, correctional systems, or correctional programs, and positions that involve responsibility for advising on, reviewing, and evaluating the management of such institutions, systems, or programs. Work in this series requires knowledge of: (1) penological theories, principles, and techniques; and (2) the problems, methods, and techniques of institutional management.

0007 – [Correctional Officer Series](#)*

This series covers positions involving the correctional treatment, custody, and supervision of criminal offenders in correctional institutions or community-based correctional treatment or rehabilitation facilities. Positions in this series have as their paramount requirement the knowledge and application of correctional skills and techniques.

0011 – [Bond Sales Promotion Series](#)

This series covers all classes of positions the duties of which are to advise on, administer, supervise, or perform work involved in promoting and maintaining the sales of United States Savings Bonds and Stamps by originating and developing promotional themes, ideas, and programs by planning, organizing, and directing the work of committees, groups, and other persons participating in the conduct of bond and stamp drives, programs, and campaigns, and by other means.

0018 – [Safety and Occupational Health Management Series](#)*

This series covers positions that involve the management, administration, or operation of a safety and occupational health program or performance of administrative work concerned with safety and occupational health activities and includes the development, implementation, and evaluation of related program functions. The primary objective of this work is the elimination or minimization of human injury and property and productivity losses, caused by harmful contact incidents, through the design of effective management policies, programs, or practices. Safety and occupational health management work requires application of the knowledge of: (1) the principles, standards, and techniques of safety and occupational health management; and (2) pertinent elements of engineering, physical science, ergonomics, psychology, industrial hygiene, physiology, sociology, and other scientific and technological fields, that contribute to the achievement of comprehensive safety and occupational health objectives.

0019 – [Safety Technician Series](#)**

This series covers positions that involve support work in accident prevention, including inspecting safety conditions, investigating and compiling data on accidents, and providing information on safety standards and techniques. Positions require a practical knowledge of work processes and equipment, environmental conditions, and established safety standards, protective devices and accident prevention measures.

0020 – [Community Planning Series](#)*

This series covers professional positions concerned with community planning and with developing the art and science of planning to apply to communities such as urban or rural neighborhoods, villages, Indian reservations, cities, counties, regions, States, or the nation. Community planning work requires knowledge of planning concepts, principles, techniques, and practices; the social, economic, political, and physical elements involved in human settlements; and the dynamics of change within these elements. Planners identify community needs, resources, and problems and assist citizens to make decisions on goals, policies, priorities, plans, programs, and methods of implementation designed to create a physical, economic, and social environment in which the human activities desired by the members of the community may flourish.

0021 – Community Planning Technician Series

This series covers positions of technicians who apply practical knowledge of community planning methods and techniques. They collect, select, compute, adjust, and process data; prepare charts, exhibits, and reports; and perform related duties supporting professional planning work. The positions require technical rather than professional knowledge and abilities for full performance and, therefore, do not require education and training equivalent in scope and nature to that required for professional positions in community planning.

0023 – [Outdoor Recreation Planning Series](#)*

This series covers positions whose primary concerns are planning, advising on, and coordinating the use of land, water and related resources to provide opportunities for the creative use of leisure time outdoors, with due regard to protecting and enhancing the quality of the outdoor environment for the enjoyment of people. The work requires application of knowledge of: (1) pertinent aspects of economics, sociology, and other social sciences in the assessment of demand for outdoor recreation; (2) the practices of natural resource conservation involved in the development and coordination of programs to provide recreation resources; and (3) the techniques of area planning.

0025 – [Park Ranger Series](#)*

This series covers positions the duties of which are to supervise, manage, and/or perform work in the conservation and use of Federal park resources. This involves functions such as park conservation; natural, historical, and cultural resource management; and the development and operation of interpretive and recreational programs for the benefit of the visiting public. Duties characteristically include assignments such as: forest and structural fire control; protection of property from natural or visitor related depredation; dissemination to visitors of general, historical, or scientific information; folk-art and craft demonstration; control of traffic and visitor use of facilities; enforcement of laws and regulations; investigation of violations, complaints, trespass/encroachment, and accidents; search and rescue missions; and management activities related to resources such as wildlife, lakeshores, seashores, forests, historic buildings, battlefields, archeological properties, and recreation areas.

0028 – [Environmental Protection Specialist Series](#)*

This series covers positions that involve advising on, managing, supervising, or performing administrative or program work relating to environmental protection programs (e.g., programs to protect or improve environmental quality, control pollution, remedy environmental damage, or ensure compliance with environmental laws and regulations). These positions require specialized knowledge of the principles and methods of administering environmental protection programs and the laws and regulations related to environmental protection activities.

0029 – Environmental Protection Assistant Series

This series covers positions that involve performing a variety of technical support work in connection with the operation of environmental protection programs. This work may take the form of assisting higher level environmental protection personnel in an area of assignment or it may involve independent performance of limited assignments in a prescribed segment of an environmental protection program. This work requires the ability to apply established instructions, rules, regulations, and procedures relevant to environmental protection activities.

0030 – Sports Specialist Series

This series covers positions that require a knowledge of the physical and psychological factors in individual and team sports, and of the nature, purpose, and organization of recreational or competitive individual and team sports activities. Sports specialists: (1) plan, supervise, administer or carry out sports programs; (2) conduct clinics or seminars to train coaches or officials; (3) train and develop athletes in individual or team sports; (4) plan, organize or conduct tournaments or competitions from the intramural to the international levels; or (5) perform other functions requiring knowledge or skill in sports.

0050 – Funeral Directing Series

This series covers all classes of positions the duties of which are to supervise or perform work, at a hospital or other station, involved in planning and directing details relating to funeral and burial services of deceased persons, including responsibility for the embalming and preparation of decedents in accordance with policies, procedures, and public health regulations, or to administer or participate in the administration of the mortuary program of a Federal agency.

0060 – [Chaplain Series](#)*

This series covers all positions the duties of which are to advise on, administer, supervise, or perform professional work involved in a program of spiritual welfare and religious guidance for patients of Government hospitals and homes, for inmates of Government correctional and penal or other institutions, or for persons in other Government activities where civilian chaplain service is needed. Positions are classifiable to this series when the nature of duties and responsibilities is such that ordination by a recognized ecclesiastical body is a basic requirement.

0062 – [Clothing Design Series](#)*

This series covers classes of positions that involve nonprofessional technical work in the design, development, testing, standardization, and improvement of clothing (including headgear, footgear, and handgear) for performance, appearance, comfort, and economical production.

0072 – [Fingerprint Identification Series](#)*

This series covers positions that involve classifying, searching, verifying, and filing fingerprints and other vestigial prints (such as footprints or palm prints) for identifying persons. The work requires a knowledge of the methods used in fingerprint classification and identification.

0080 – [Security Administration Series](#)*

This series covers positions the primary duties of which are analytical, planning, advisory, operational, or evaluative work that has as its principal purpose the development and implementation of policies, procedures, standards, training, and methods for identifying and protecting information, personnel, property, facilities, operations, or material from unauthorized disclosure, misuse, theft, assault, vandalism, espionage, sabotage, or loss. Duties involve the management, supervision, or performance of work in: (1) developing, evaluating, maintaining, and/or operating systems, policies, devices, procedures, and methods used for safeguarding information, property, personnel, operations, and materials; and/or (2) developing and implementing policies and procedures for analyzing and evaluating the character, background, and history of employees, candidates for employment, and other persons having or proposed to be granted access to classified or other sensitive information, materials, or work sites. (Note: This series does not include police work as described in the Police Series, 0083.)

0081 – [Fire Protection and Prevention Series](#)*

This series covers positions that supervise or perform work to control and extinguish fires, rescue persons endangered by fire, and reduce or eliminate potential fire hazards. It also covers fire service positions that control hazardous materials incidents; train personnel in fire protection and prevention; operate fire communications equipment; develop and implement fire protection and prevention plans, procedures, and standards; and advise on improvements to structures for better fire prevention. Positions in this series require knowledge of firefighting and fire prevention theory and techniques, a knowledge of fixed and mobile firefighting equipment operation; and/or the ability to plan, direct, or carry out fire protection and prevention programs and operations.

0082 – [United States Marshal Series](#)*

This series covers positions involving a range of law enforcement responsibilities including serving of civil writs and criminal warrants issued by Federal courts; tracing and arresting people wanted under court warrants; seizing and disposing of property under court orders; safeguarding and transporting prisoners; providing for the physical security of court facilities and personnel; providing for the physical security of jurors and key Government witnesses and their families; preventing civil disturbances or restoring order in riot and mob violence situations; and performing other special law enforcement duties as directed by a court order or by the Department of Justice. These positions require ability in locating and identifying wanted persons or property, knowledge of court procedure, basic knowledge of business records and practices, knowledge of Federal and State laws that deputies must enforce, as well as relevant court decisions, and ability to deal with people from all levels of society.

0083 – [Police Series](#)*

This series covers positions the primary duties of which are the performance or supervision of law enforcement work in the preservation of the peace; the prevention, detection, and investigation of crimes; the arrest or apprehension of violators; and the provision of assistance to citizens in emergency situations, including the protection of civil rights. The purpose of police work is to assure compliance with Federal, State, county, and municipal laws and ordinances, and agency rules and regulations pertaining to law enforcement work.

0084 – [Nuclear Materials Courier Series](#)**

This series covers positions the duties of which involve performing or supervising the safe and secure transportation of sensitive nuclear materials owned or controlled by the Department of Energy. The work requires knowledge of laws, rules, regulations, methods, techniques, and procedures governing: the operation, control, and protection of vehicles and their cargoes; the use of tactical weapons and arrest authority; emergencies involving health and safety of personnel, vehicles, and nuclear materials; departmental and other Federal, State, and local security authorities; and similar knowledge involving the protection, movement, and delivery of sensitive nuclear materials.

0085 – [Security Guard Series](#)*

This series covers positions the primary duties of which are the performance or supervision of protective services work in guarding Federally-owned or leased buildings and property; protecting Government equipment and material; and controlling access to Federal installations by employees, visitors, residents, and patients. The purpose of security guard work is to protect and prevent loss of materials or processes that are important for national defense, for public health or safety, or as national treasures.

0086 – [Security Clerical and Assistance Series](#)**

This series covers positions the primary duties of which are to supervise or perform clerical and assistant tasks in support of established security programs (e.g., personnel, physical, information, or industrial security) when such work requires, in addition to general administrative and/or clerical skills, practical knowledge of specific security objectives, programs, methods, and procedures, and skills in carrying out support tasks related to security administration.

0090 – [Guide Series](#)*

This series covers all classes of positions the duties of which are to provide or supervise nonprofessional interpretive and guide services to visitors to parks, dams and other sites of public interest. The work involves giving formal talks, interpreting natural and historic features, explaining engineering structures and related water resource developments, answering questions, guiding tours, and providing miscellaneous services to visitors. Incidental duties are performed in connection with responsibility for visitor safety and protection of historic and scientific objects and natural or engineering features.

0095 – [Foreign Law Specialist Series](#)**

This series covers positions that perform professional work requiring knowledge of law as it is practiced in one or more foreign countries; library objectives, functions, techniques, and services; and the political, economic, and social systems of particular foreign countries. Most positions also require the ability to translate and interpret technical legal material from a foreign language into English and from English into a foreign language. Positions in this series perform legal research, reference, and writing assignments requiring expert analysis and interpretation of the legal systems of particular foreign countries in terms of Anglo-American law concepts; provide definitive advice and assistance to the three branches of Government on matters associated with foreign law; and, provide other specialized services in the acquisition, processing, and custody of foreign legal collections.

0099 – General Student Trainee Series

The student trainee series in each Occupational Group includes all trainee positions that involve periods of pertinent formal education and periods of employment in a Federal agency. The education and employment must be part of a formal student employment program. The level of education and experience completed by the student is a major consideration in establishing the level of on-the-job training and work assignments during periods of employment. This series definition applies to the XX99 student trainee series for each Occupational Group. Student trainee positions should be classified to the XX99 series for the appropriate Occupational Group (0099, 0199, 1599, etc.).

All positions classified to a student trainee series should be titled Student Trainee followed by a parenthetical title consistent with the occupational field involved; for example: Student Trainee (Personnel Management), Student Trainee (Psychology), Student Trainee (Civil Engineering).

0100 – SOCIAL SCIENCE, PSYCHOLOGY, AND WELFARE GROUP

This group includes all classes of positions the duties of which are to advise on, administer, supervise, or perform research or other professional and scientific work, subordinate technical work, or related clerical work in one or more of the social sciences; in psychology; in social work; in recreational activities; or in the administration of public welfare and insurance programs.

Series in this group are:

0101 – Social Science Series

This series covers positions the duties of which are to advise on, administer, supervise or perform research or other professional and scientific work in one or any combination of the social sciences when such work is not classifiable in other series of this occupational group.

0102 – Social Science Aid and Technician Series

This series covers positions involving nonprofessional work of a technical, specialized, or support nature in one or more of the social science or other occupational fields covered by this group when there is no more appropriate series. The positions require a practical understanding of the objectives, policies, procedures, or regulatory requirements pertaining to the work and the ability to apply skills or knowledge of the occupation involved. The work does not require full professional competence (or equivalent professional-level preparation) in the theories, principles, and concepts of the field.

0105 – [Social Insurance Administration Series](#)*

This series covers positions primarily concerned with administering, planning, managing, and conducting the Federal Social Security old age, survivors, disability, and/or health insurance programs. Included are those positions concerned with the development, preparation, issuance, and interpretation of policies, methods, and procedures for the conduct of such programs; and also those positions that involve representing the programs before the general public and determining eligibility for benefits when the work requires the ability to deal effectively with the general public. Positions in this series require a knowledge of the broad concepts and technical provisions of the old age, survivors, disability insurance, and/or health insurance programs established by the Social Security Act, as amended.

0106 – [Unemployment Insurance Series](#)**

This series covers positions involving the development, promotion and evaluation of unemployment insurance programs administered under Federal-State joint arrangement. Positions in this series require a knowledge of the history, concepts, methods, and techniques of social insurance and of the social and economic conditions under which such programs operate.

0107 – Health Insurance Administration Series

This series covers positions that involve managing, supervising, or performing work concerned with the administration and operation of national health insurance programs, such as Medicare and Medicaid. This includes interpreting program requirements and formulating policies, methods, and procedures; monitoring, reviewing, evaluating, and assessing the integrity and quality of program operations; preparing and analyzing health care data related to the programs; and performing other related activities. Positions included in this series primarily require knowledge of the laws, regulations, principles, and operational requirements of national health insurance programs; knowledge of the interrelationships among these programs and other related Federal and State programs; and analytical skills and abilities used in planning, developing, and evaluating the operation and delivery of these programs to the public.

0110 – [Economist Series](#)*

This series covers positions which require application of a professional knowledge of economics in the performance of duties that include: research into economic phenomena, analysis of economic data, and the preparation of interpretive reports; advice and consultation on economic matters to governmental officials and private organizations or citizens; and the performance of other professional work in economics including supervision and the direction of economists engaged in the various economics programs of the Federal Government.

0119 – Economics Assistant Series

This series covers all classes of positions the duties of which are to supervise or perform subordinate research and related work involved in the collecting, compiling, verifying, analyzing, or reporting data, where the work requires the application of specialized or technical knowledge or skills in one or more fields of economics, but does not require full professional competence in economic theories, principles, and concepts. Excluded are positions that require application of knowledge of statistical clerical methods characteristic of the Statistical Assistant Series, 1531.

0130 – Foreign Affairs Series

This series covers all classes of positions the duties of which are to advise on, administer, supervise, or perform research or other professional and scientific work in the departmental formulation and direction of the foreign affairs of the Government or in the study and disposition of information bearing on international relations.

0131 – International Relations Series

This series covers all classes of positions the duties of which are to advise on, administer, supervise, or perform professional work in the formulation and implementation of foreign policy of the United States in the conduct of the relations, primarily of a political or politico-economic nature, of the United States with other governments.

0132 – [Intelligence Series](#)**

This series covers positions concerned with advising on, administering, supervising, or performing work in the collection, analysis, evaluation, interpretation, and dissemination of information on political, economic, social, cultural, physical, geographic, scientific, or military conditions, trends, and forces in foreign and domestic areas that directly or indirectly affect the national security. These positions require a basic knowledge and understanding of one or more of the natural or social sciences, engineering, or military science, but do not demand, as a primary qualification requirement, full knowledge of the current state of the art.

0134 – Intelligence Aid and Clerk Series

Positions in this series have duties involving subordinate or clerical work in the field of intelligence. These duties require the application of knowledge concerning administrative or clerical procedures and operations peculiar to the collection, production, or dissemination of intelligence information. Such information covers the political, economic, social, cultural, physical, geographic, scientific, or military trends or conditions in foreign or domestic areas that affect the national security.

0135 – Foreign Agricultural Affairs Series

This series covers all classes of positions the duties of which are to advise on, administer, supervise, or perform professional work in market and economic analysis and interpretation, and foreign reporting, in connection with the development of foreign markets for United States agricultural commodities; in analysis of the agricultural economy, developments, trends, and conditions in foreign countries; and in representing the Government in matters affecting foreign agricultural affairs.

0136 – [International Cooperation Series](#)*

This series covers all classes of positions the duties of which are to advise on, administer, supervise, or perform research and operational work in the planning, development, and implementation of foreign economic assistance programs undertaken by the United States. These duties require knowledge of economic, social, cultural, and political conditions in the country of assignment and of United States foreign policy.

0140 – Manpower Research and Analysis Series

This series covers positions involving the performance of professional work in manpower research or in manpower programs development and evaluation for the purpose of furthering the development and utilization of the nation's manpower resources. Such work requires the application of concepts, principles and practices of sociology, psychology, economics, and/or allied social sciences in implementing national programs designed to equip the underemployed, the persistently unemployed and other unemployed with necessary skills to provide an opportunity for their full participation and utilization in the labor force; to increase the general employability of unemployed youth; to aid school dropouts or potential dropouts in continuing or resuming their education; and to insure sufficient availability of needed manpower and occupational skills.

0142 – [Manpower Development Series](#)*

This series covers positions that involve specialized administrative and technical work concerned with the implementation, promotion, coordination, monitoring, and evaluation of Federally funded programs for the development and utilization of manpower resources. Some positions in this occupation are involved in programs that deal with the identification of and communication with disadvantaged people requiring employment assistance, the provision of necessary assistance and support through counseling, education, and training and their placement into suitable, stable employment. These positions require specialized knowledge and application of manpower methods, practices, techniques, and principles. These positions do not require full professional knowledge in one or more of the social or behavioral sciences or regular application of the theories, principles, and practices of these disciplines.

0150 – [Geography Series](#)*

This series covers positions the duties of which involve professional work in the field of geography, including the compilation, synthesis, analysis, interpretation and presentation of information regarding the location, distribution, and interrelationships of and processes of change affecting such natural and human phenomena as the physical features of the earth, climate, plant and animal life, and human settlements and institutions.

0160 – [Civil Rights Analysis Series](#)*

This series covers positions primarily concerned with planning, conducting, and reporting descriptive social science research in the field of civil rights and equal opportunity when the paramount qualification requirements for the position includes a broad knowledge of the field of civil rights; ability to apply accepted documentary and field research techniques to study issues and policies affecting civil rights; consulting skill; and a high degree of writing and oral communication skill. Positions in this series typically involve research into specialized technical fields such as voting rights, public accommodations, or equal employment requiring specialized knowledge of a subject-matter area in addition to a broad knowledge of civil rights.

0170 – [History Series](#)*

This series covers positions the duties of which are to advise on, administer, supervise or perform research or other work in the field of history when such work requires a professional knowledge of established methods and techniques of historical research in the collection, evaluation, analysis or presentation of historical facts.

0180 – [Psychology Series](#)*

This series covers positions involving professional work relating to the behavior, capacities, traits, interests and activities of human and animal organisms. This work may involve any one or a combination of the following functions: (1) experimenting with or systematically observing organisms to develop scientific principles or laws concerning the relationship of behavior to factors of environment, experience, or physiology, or to develop practical applications of findings; (2) applying professional knowledge of psychological principles, theories, methods, or data to practical situations and problems; and (3) providing consultative services or training in psycho-logical principles, theories, methods, and techniques to advance knowledge of them and their appropriate use.

0181 – Psychology Aid and Technician Series

This series covers classes of positions that involve the performance of nonprofessional technical work in connection with a program of research or direct services in psychology. Positions in this series involve a practical understanding of some of the principles, methods and techniques of psychology but do not require formal education in psychology. While positions in the lower grades of the Psychology Series, 0180, may involve performance of tasks similar to work performed by incumbents in this series, work classifiable to the 0180 series is distinguished by the fact that it is performed as part of a program of training and development leading to acquisition of broader knowledge, skills and insights into the overall principles and theory of psychology, whereas work in the Psychology Aid and Technician Series is performed for its immediate productive value, is typically very limited in breadth, and does not provide substantial development of broader psychological skills, knowledge, and insights.

0184 – [Sociology Series](#)**

This series covers positions that involve professional work requiring knowledge of sociology and sociological methods specifically related to the establishment, validation, interpretation, and application of knowledge about social processes. Sociologists study specialized areas such as: changes in the character, size, distribution, and composition of the population; social mechanisms for enforcing compliance with widely accepted norms and for controlling deviance; social phenomena having to do with human health and disease; the structure and operation of organizations; and the complex interrelationship of the individual and society. Sociologists are concerned primarily with the study of patterns of group and organizational behavior, social interaction, and social situations in which interaction occurs. The emphasis is on the patterns of behavior that are characteristic of social groups, organizations, institutions, and nations. Some sociologists perform sociological research, others apply sociological principles and findings, and some perform a combination of both kinds of work.

0185 – [Social Work Series](#)*

This series covers positions that require application of a professional knowledge of the principles and practices of social work in the performance of such assignments as providing direct services to individuals and families, including work with individuals in groups. Also included are positions concerned with teaching social work, doing research on social work problems, training of social work students, and providing consultation and advice to members of related professions and community organizations on social work questions.

0186 – [Social Services Aid and Assistant Series](#)**

This series covers nonprofessional positions in support of counseling, guidance, and related social services work in social, employment assistance, or similar programs. The persons served by the programs may be individuals or families in the community or individuals in an institution, dormitory, or other Government facility. Duties may range from work which involves group leadership and giving practical guidance on day-to-day activities to residents in a Government facility to work that involves training or employment opportunities. The work requires skill to communicate effectively and work constructively with members of the particular group involved. The work also requires a practical knowledge of program requirements and procedures, and a practical understanding of some of the more routine methods and techniques of counseling.

0187 – [Social Services Series](#)*

This series covers positions that require application of specialized program knowledge and service skills in providing assistance to individuals and families served by social welfare programs. This work involves such functions as obtaining selected background information through interviews and home visits, establishing eligibility to make use of agency resources, helping individuals identify needs that are related to services the agency can provide, explaining and encouraging the use of agency and community resources as means of dealing with identified problems, and making appropriate referrals to sources of additional help. These functions may be performed either: (1) in conjunction with professional social work; or (2) in conformity with agency procedural instructions and standards of services. Although these positions require a specialized knowledge of the social service program, they do not require a broad theoretical approach to social problems acquired through professional education in social work or in other recognized disciplines in the social sciences.

0188 – [Recreation Specialist Series](#)*

This series covers positions where the paramount requirement is for a general knowledge of the goals, principles, methods and techniques of the broad field of recreation in evaluating recreation needs and in planning, organizing, advising on, and administering recreation activities and programs that promote the physical, creative, and social development of participants.

0189 – [Recreation Aid and Assistant Series](#)**

This series covers positions requiring a practical knowledge of one or more recreational activities, such as military or urban community center activities, child care and youth center activities, senior citizens recreation activities, outdoor recreation activities, recreation craft centers and hobby shops, sports centers, music and theater centers, and general recreation activities for special populations such as students in the Bureau of Indian Affairs boarding schools and inmates of Federal correctional institutions. This practical knowledge, combined with skill in the maintenance and use of recreation materials and equipment, is used in providing support and assistance to recreation specialists or recreation program managers by performing limited aspects of recreation work, and by working with participants in well-organized and carefully monitored recreation activities.

0190 – General Anthropology Series

This series covers all classes of positions the duties of which are to advise on, supervise or perform research or other professional and scientific work in the anthropological sciences except archeology. This work may be specialized in one or several of the branches of the scientific field that includes ethnology, physical anthropology, and scientific linguistics.

0193 – [Archeology Series](#)**

This series covers positions that involve professional work in archeology, the scientific study of past human activities through the physical remains of life and past human activities. The work may include research, field investigations, laboratory analysis, library research, interpretation or consultative work, preparation of reports for publication, curation and exhibition of collections, or development and implementation of programs and projects that carry out such work. Such work requires knowledge of professional archeological principles, theories, concepts, methods, and techniques.

0199 – Social Science Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

0200 – HUMAN RESOURCES MANAGEMENT GROUP

This group includes all classes of positions the duties of which are to advise on, administer, supervise, or perform work involved in the various phases of human resources management.

Series in this group are:

0201 – [Human Resources Management Series](#)***

This series covers two-grade interval administrative positions that manage, supervise, administer, advise on, or deliver human resources management products or services.

This series covers, but is not limited to, the following specialties:

Information Systems – Work that involves developing, delivering, managing, and maintaining HR information systems when the paramount knowledge requirement is human resources management, rather than information technology.

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- Military** – Work that involves administering, delivering, maintaining, advising on, and adapting basic concepts, principles, and theories of military HR to the unique organizational, management, and mission requirements of military departments or organizations.
- Classification** – Work that involves position evaluation; establishing and maintaining a position classification program to determine appropriate pay system, occupational grouping, title and grade of positions; and advising on position and organization design.
- Compensation** – Work that involves analyzing, interpreting, developing, and/or implementing laws, regulations, policies, and/or guidance involving subject matter areas within compensation administration (e.g., pay and/or leave administration) and advising management on the use of compensation flexibilities to help recruit, manage, and retain employees.
- Recruitment & Placement** – Work that involves recruiting, examining, selecting and placing employees; performing job analysis; workforce planning and analysis; and advising management in identifying, attracting, and retaining a high-quality and diverse workforce that is capable of accomplishing the organization’s mission.
- or Recruitment or Placement**
- Employee Benefits** – Work that involves providing guidance and consultation to agencies, employees, former employees, annuitants, survivors, and eligible family members regarding retirement, insurance, health benefits, and injury compensation.
- Human Resource Development** – Work that involves planning, administering, or evaluating programs designed to develop employees and manage learning in the organization.
- Performance Management** – Work that involves assisting managers and supervisors in establishing, maintaining, and monitoring effective performance management programs to plan, monitor, develop, rate, and reward employee performance and services that support formal and informal award programs to provide employee incentives and recognition.
- Employee Relations** – Work that involves providing advice and assistance to employees and managers, program administration, research, and case management in matters related to conduct, performance, attendance, and dispute resolution.
- Labor Relations** – Work that involves establishing and maintaining effective relationships – including the use of non-traditional collaborative approaches – with labor organizations that represent Federal employees, negotiating and administering labor agreements, and providing guidance and consultation to management on a variety of labor relations matters.

0203 – Human Resources Assistance Series***

This series covers one–grade interval administrative support positions that supervise, lead, or perform human resources (HR) assistance work requiring substantial knowledge of civilian and/or military HR terminology, requirements, procedures, operations, functions, and regulatory policy and procedural requirements applicable to HR transactions. The work does not require the broad knowledge of Federal HR systems or the depth of knowledge about HR concepts, principles, and techniques that are characteristic of the recognized HR specialist positions in the Human Resources Management Series, 0201.

This series covers, but is not limited to, the following specialties:

- Information Systems** – Work that primarily involves entering and extracting data from HR information systems.
- Military** – Work that involves support of military HR programs and functions.
- Classification** – Work that involves support of position classification programs and functions.
- Recruitment & Placement** – Work that involves support of recruitment, selection, placement, job analysis, and workforce planning and analysis.
*or Recruitment
or Placement*
- Employee Benefits** – Work that involves support of employee guidance and consultation to agencies, employees, former employees, annuitants, survivors, and eligible family members regarding retirement, insurance, health benefits, and injury compensation.
- Human Resource Development** – Work that involves support of human resource development programs and functions.
- Performance Management** – Work that involves support of performance management programs and/or employee awards programs.
- Employee & Labor Relations** – Work that involves support of employee relations programs in matters related to conduct, performance, attendance, and dispute resolution; and/or work involved in maintaining effective relationships with labor organizations that represent Federal employees, negotiating and administering labor agreements, and providing guidance and consultation to management on a variety of labor relations matters.
*or Employee Relations
or Labor Relations*

0241 – [Mediation Series](#)*

This series covers all positions that involve providing mediation assistance to labor and management in the settlement or prevention of industrial labor disputes connected with the formulation, revision, termination, or renewal of collective-bargaining agreements. The paramount qualification requirement of all positions in this series is ability and skill in applying the techniques of mediation in dealing with the parties to a dispute. The application of these techniques in the settlement of industrial labor disputes requires knowledge of the field of labor-management relations, particularly of collective bargaining principles, practices, and processes; understanding of economic, industrial, and labor trends, and of current developments and problems in the field of labor relations; and knowledge of applicable labor laws and precedent decisions.

0243 – [Apprenticeship and Training Series](#)*

This series includes positions that involve the administration, supervision, or performance of work primarily concerned with: (1) the promotion of apprenticeship and other on the job training programs and standards to meet the needs for skilled manpower in industry; and (2) providing technical advice and assistance on methods for improving and obtaining more effective utilization of worker skills on the job. This work includes obtaining the cooperative support of, providing consultative services to, and coordinating with management and labor, educational, community, and other groups, and governmental agencies at local, State, and Federal levels. Positions in this series basically require knowledge of the principles and practices of apprenticeship, ability to analyze industrial processes and operations in order to identify the manpower and training problems involved and to advise on solutions, and knowledge of related industrial relations practices and problems. Also classifiable to this series are positions requiring application of the same basic knowledge and abilities in supervising or performing work primarily involving the review of apprenticeship standards and training agreements for conformance with basic national standards.

0244 – [Labor Management Relations Examining Series](#)*

This series includes positions that involve the administration, supervision, or performance of work in the investigation, evaluation and resolution of cases involving charges of unfair labor practices or collective bargaining representation issues or disputes that arise under the National Labor Relations Act. Work in this series requires knowledge of the field of labor-management relations, of collective bargaining processes, of applicable labor laws and precedent decisions, and of the regulations, policies and practices of the National Labor Relations Board. It also requires the ability to apply investigative techniques, and to negotiate constructively and persuasively. This series excludes positions the duties of which primarily involve the mediation of labor-management disputes arising out of the formulation or revision of collective bargaining agreement.

0260 – [Equal Employment Opportunity Series](#)*

This series covers positions primarily concerned with developing, administering, evaluating, or advising on the Federal Government's internal equal employment opportunity program within various Federal agencies when the position requires knowledge of Federal equal employment opportunity regulations and principles; compliance and enforcement skills; administrative, management, and consulting skills; and knowledge of Federal personnel administration. This includes managers or coordinators of special emphasis Programs designed to solve the specialized employment problems of women, minorities, veterans, the handicapped, persons over age forty, and others as they relate to Federal employment.

0299 – Human Resources Management Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

0300 – GENERAL ADMINISTRATIVE, CLERICAL, AND OFFICE SERVICES GROUP

This group includes all classes of positions the duties of which are to administer, supervise, or perform work involved in management analysis; stenography, typing, correspondence, and secretarial work; mail and file work; the operation of office appliances; the operation of communications equipment, use of codes and ciphers, and procurement of the most effective and efficient communications services; the operation of microform equipment, peripheral equipment, mail processing equipment, duplicating equipment, and copier/duplicating equipment; and other work of a general clerical and administrative nature.

Series in this group are:

0301 – [Miscellaneous Administration and Program Series](#)**

This series covers positions the duties of which are to perform, supervise, or manage two-grade interval administrative or program work for which no other series is appropriate. The work requires analytical ability, judgment, discretion, and knowledge of a substantial body of administrative or program principles, concepts, policies, and objectives.

0302 – [Messenger Series](#)*

This series covers all classes of positions the primary duties of which are to supervise or perform general messenger work, such as receiving, delivering, and collecting incoming and outgoing mail or other documents or items, including correspondence, memoranda, publications, records, files, packages, and other similar material. Positions in this series can also involve the performance of light manual or mechanical work, or general office tasks of a simple and routine nature, or the operation of a motor vehicle.

0303 – [Miscellaneous Clerk and Assistant Series](#)**

This series covers positions the duties of which are to perform or supervise clerical, assistant, or technician work for which no other series is appropriate. The work requires knowledge of the procedures and techniques involved in carrying out the work of an organization and involve application of procedures and practices within the framework of established guidelines.

0304 – [Information Receptionist Series](#)*

This series covers all classes of positions the duties of which are to supervise or perform work involved in receiving and directing people who call or visit government agencies, installations, or offices, and giving them information in person or by telephone concerning the organization, functions, activities, and personnel of such agencies, installations, or offices.

0305 – [Mail and File Series](#)*

This series covers positions involving the administration, supervision, or performance of clerical work related to the processing of incoming or outgoing mail and/or the systematic arrangement of records for storage or reference purposes, the scheduled disposition of records, and the performance of related work when such duties require the application of established mail or file methods and procedures, knowledge of prescribed systems for governing the flow and control of communications, and/or the filing or storage and retrieval of records, and knowledge of the organization and functions of the operating unit or units serviced.

0309 – [Correspondence Clerk Series](#)*

This series covers all classes of positions the duties of which are to supervise or perform work involved in the composition or review of correspondence prepared for the purpose of obtaining or supplying factual information when the work primarily requires skill in the composition of letters and memoranda.

0312 – [Clerk-Stenographer and Reporter Series](#)**

This series covers all positions the duties of which are to perform stenography or shorthand reporting work either solely or in combination with clerical work, except when the clerical work requires such specialized experience or training that it constitutes the paramount qualification requirement for the position; or to supervise work characteristic of this series when stenographic or shorthand reporting ability is an essential requirement of the supervisory position.

0313 – [Work Unit Supervising Series](#)**

This series covers all classes of positions the duties of which to supervise one or more work units when the work of the unit(s) is properly classified to one-grade interval series. Positions classified to this series have as their paramount qualification requirement supervisory knowledge and abilities and do not require prior experience, knowledge, or skill in a specialized subject matter or functional area.

0318 – [Secretary Series](#)*

This series covers all positions the duties of which are to assist one individual, and in some cases the subordinate staff of that individual, by performing general office work auxiliary to the work of the organization. To be included in this series, a position must be the principal office clerical or administrative support position in the office, operating independently of any other such position in the office. The duties require knowledge of clerical and administrative procedures and requirements, various office skills, and the ability to apply such skills in a way that increases the effectiveness of others. The duties do not require a technical or professional knowledge of a specialized subject-matter area.

0319 – [Closed Microphone Reporting Series](#)**

This series covers all classes of positions the principal duties of which are to supervise or perform the work involved in the recording and transcription of material spoken at conferences, hearings, or similar proceedings when the recording duties require the ability to operate closed microphone or similar mechanical equipment to reproduce the spoken material on a disk, cylinder, or similar device.

0322 – [Clerk-Typist Series](#)**

This series covers all positions the primary duties of which are to perform typing work on either manual or electric typewriters. This work can be performed solely or in combination with general clerical work that does not require prior specialized experience or training. Included is typing work prepared from written material and voice recordings. Supervisory positions involved in supervising work characteristic of this series are also included when typing ability is an essential part of the job.

0326 – [Office Automation Clerical and Assistance Series](#)**

This series covers all positions the primary duties of which are to perform office automation work that includes word processing, either solely or in combination with clerical work, when such work is performed in the context of general office clerical support. Also included are positions that supervise work characteristic of this series when the knowledge, skills, and abilities for general office automation support work are essential requirements of the supervisory position. Positions in this series require: (1) knowledge of general office automation software, practices, and procedures; (2) competitive level proficiency in typing; and (3) ability to apply these knowledge and skills in the performance of general office support work.

0332 – [Computer Operation Series](#)*

This series covers positions the paramount duties of which involve operating or supervising the operation of the controls of the digital computer system. Also included are positions involving the operation of peripheral equipment when: (1) such equipment is used directly in support of computer operations; and (2) the operation of such equipment is directly related to acquiring the knowledge and skills needed in operating the control console of a computer system. Positions in this series require knowledge of the functions of the various computer features and the skill to read, interpret, and correctly respond to information in the form in which it is transmitted through the computer system.

0335 – [Computer Clerk and Assistant Series](#)*

This series covers positions involving performance or supervision of data processing support and services functions for users of digital computer systems including such work as: (1) receiving, maintaining, and issuing data storage media for computer operations; (2) collecting and sequentially staging input media with associated program instructions for processing; (3) scheduling the use of computer time for program processing; (4) collecting, maintaining and distributing program and systems documentation; and (5) collecting raw information, preparing flow charts, and coding in program languages; or (6) other support functions. This work requires knowledge of external data processing sequences, controls, procedures, or user and programming languages, rather than in-depth knowledge of computer requirements or techniques associated with development and design of data processing systems.

0340 – Program Management Series

This series covers all classes of positions the duties of which are to manage or direct, or to assist in a line capacity in managing or directing, one or more programs, including appropriate supporting service organizations, when the paramount qualification requirement of the positions is management and executive knowledge and ability and when the positions do not require competence in a specialized subject-matter or functional area. (Positions in which specialized subject matter or functional competence is a necessary qualification requirement are classifiable to whichever specialized or general series is most appropriate.)

0341 – [Administrative Officer Series](#)**

This series covers positions in which the employees are responsible for providing or obtaining a variety of management services essential to the direction and operation of an organization. The paramount qualifications required are extensive knowledge and understanding of management principles, practices, methods and techniques, and skill in integrating management services with the general management of an organization.

0342 – [Support Services Administration Series](#)*

This series covers all positions the primary duties of which involve supervising, directing, or planning and coordinating a variety of service functions that are principally work-supporting; i.e., those functions without which the operations of an organization or services to the public would be impaired, curtailed, or stopped. Such service functions include (but are not limited to) communications, procurement of administrative supplies and equipment, printing, reproduction, property management, space management, records management, mail service, facilities and equipment maintenance, and transportation.

0343 – Management and Program Analysis Series**

This series covers positions that primarily serve as analysts and advisors to management on the evaluation of the effectiveness of government programs and operations or the productivity and efficiency of the management of Federal agencies or both. Positions in this series require knowledge of: the substantive nature of agency programs and activities; agency missions, policies, and objectives; management principles and processes; and the analytical and evaluative methods and techniques for assessing program development or execution and improving organizational effectiveness and efficiency. Some positions also require an understanding of basic budgetary and financial management principles and techniques as they relate to long range planning of programs and objectives. The work requires skill in: application of fact-finding and investigative techniques; oral and written communications; and development of presentations and reports.

0344 – Management and Program Clerical and Assistance Series*

This series covers positions involved in supervising or performing clerical and technical work in support of management analysis and program analysis, the purposes of which are to evaluate and improve the efficiency, effectiveness, and productivity of organizations and programs. The work requires a practical knowledge of the purposes, methods, and techniques of management analysis and/or program analysis and the structures, functions, processes, objectives, products, services, resource requirements, and similar features of Government programs and organizations.

0346 – Logistics Management Series**

This series covers positions concerned with directing, developing, or performing logistics management operations that involve planning, coordinating, or evaluating the logistical actions required to support a specified mission, weapons system, or other designated program. The work involves: (1) identifying the specific requirements for money, manpower, materiel, facilities, and services needed to support the program; and (2) correlating those requirements with program plans to assure that the needed support is provided at the right time and place. Logistics work requires: (1) knowledge of agency program planning, funding, and management information systems; (2) broad knowledge of the organization and functions of activities involved in providing logistical support; and (3) ability to coordinate and evaluate the efforts of functional specialists to identify specific requirements and to develop and adjust plans and schedules for the actions needed to meet each requirement on time.

Positions in this series require some degree of specialized knowledge of some or all of the logistics support activities involved. The paramount qualification requirement, however, is the ability to integrate the separate functions in planning or implementing a logistics management program. (Positions in which specialized knowledge of logistics support functions are the paramount requirement are classified to whichever specialized or general series is most appropriate.)

0350 – [Equipment Operator Series](#)*

This series covers positions that involve supervising, leading or operating microform equipment, peripheral equipment, mail processing equipment, duplicating equipment, and copier/duplicating equipment requiring a knowledge of the operating characteristics of the equipment and controls, the skill and knowledge to set up and adjust the equipment and controls to produce acceptable products or services on a timely basis, and the skill to perform normal operator maintenance.

0356 – [Data Transcriber Series](#)*

This series covers positions that involve operating or supervising the operation of keyboard controlled machines (such as card punch machines, paper tape recording machines, magnetic tape, or disc encoders, optical character equipment, and computer controlled data entry, update and remote inquiry devices) to transcribe or verify data in a form that can be used in automated data processing systems. The work requires: (1) skill in operating a typewriter or a modified typewriter style alphabetic and numeric keyboard with acceptable speed and accuracy; and (2) ability to understand and apply machine operating and data transcribing procedures. Data transcribing work that is combined with clerical work is covered by this series unless the clerical work requires specialized experience or training that constitutes the paramount qualification requirement of the position.

0357 – [Coding Series](#)**

This series covers positions engaged in supervising, verifying, or performing work involved in coding information from schedules, questionnaires, reports, documents, and other written source material, according to codes involving numerical and alphabetical symbols, and performing other incidental clerical tasks. This series includes those positions that require some knowledge of the information being coded in addition to procedural knowledge, as well as those positions that require only procedural coding knowledge.

0360 – [Equal Opportunity Compliance Series](#)*

This series covers positions performing, supervising, or managing analytical, evaluative, and interpretive equal opportunity and civil rights compliance work. Positions in this series are concerned with the application of civil rights and equal opportunity laws, regulations, and precedent decisions to eliminate illegal discrimination and to remove barriers to equal opportunity. This work involves analyzing and solving equal opportunity and civil rights problems through factfinding, problem analysis, negotiation, and voluntary compliance programs. The work requires judgment in applying equal opportunity principles to solve problems or recommend action. Many positions in this series require specialized knowledge and skill in investigating and resolving allegations of discrimination. This series also includes equal opportunity or civil rights positions of an analytical, evaluative, and interpretive nature that are not properly classified to another series.

0361 – [Equal Opportunity Assistance Series*](#)

This series covers positions supervising or performing technical and substantive clerical work in support of equal opportunity and civil rights programs or activities. The paramount qualification requirement is a practical knowledge of the methods, procedures, regulations, and purposes of the equal opportunity or civil rights functions the positions support. These positions do not require the broad knowledge of equal opportunity and civil rights principles, or the depth of skill in analysis, interpretation, and decision-making characteristic of the Equal Opportunity Compliance Series, 0360, Equal Employment Opportunity Series, 0260, and Civil Rights Analysis Series, 0160.

0382 – [Telephone Operating Series*](#)

This series covers one grade interval work involving operating or supervising the operation of telephone switchboard equipment to connect incoming and outgoing calls. The work involves routing the calls to their proper destinations and providing telephone and organizational information to callers.

0390 – [Telecommunications Processing Series*](#)

This series covers one grade interval work that involves performing or supervising the operation of equipment in transmitting, receiving, and relaying messages. The work requires knowledge of message-handling procedures and use of computer hardware and software or other equipment to send messages to their proper destinations.

0391 – [Telecommunications Series*](#)

This occupation includes positions that involve: (1) technical and analytical work pertaining to the planning, development, acquisition, testing, integration, installation, utilization, or modification of telecommunications systems, facilities, services, and procedures; (2) managerial and staff work in the planning, implementation, or program management of telecommunications programs, systems, and services; or (3) line supervision over communications operations, when such work includes responsibility for management functions such as planning, recommending changes and determining organizational structure, staffing, training, and budgetary requirements.

0392 – [General Telecommunications Series](#)**

This series covers one grade interval positions that involve performing or supervising miscellaneous telecommunications duties not provided for in other series. Positions in this series do not typically involve substantial operation of telecommunications equipment to send and receive messages, but do require knowledge of telecommunications techniques to facilitate the flow of messages.

0394 – [Communications Clerical Series](#)**

This series covers all classes of positions the duties of which are to supervise or perform communications clerical work required in support of communications operations or in the maintenance of communications records when the work requires knowledge of and ability to apply communications instructions, rules, regulations, and procedures, but does not require knowledge of the concepts, methodology, and techniques of communications or of technical communications principles. Included in this series is such clerical work as: keeping memorandum records of communication operations and services, clerical processing and maintaining records of frequency allocations, clerical processing and maintaining records of call sign allocations, maintaining records of communication publications, providing information to the public on communication rates and tariffs, maintaining records of circuit usage and equipment, and the compilation of summaries and reports and other clerical work incident to the support of communication operations or the maintenance of communication records.

0399 – Administration and Office Support Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

0400 – NATURAL RESOURCES MANAGEMENT AND BIOLOGICAL SCIENCES GROUP

This group includes all classes of positions the duties of which are to advise on, administer, supervise, or perform research or other professional and scientific work or subordinate technical work in any of the fields of science concerned with living organisms, their distribution, characteristics, life processes, and adaptations and relations to the environment; the soil, its properties and distribution, and the living organisms growing in or on the soil; and the management, conservation, or utilization thereof for particular purposes or uses.

Series in this group are:

0401 – [General Natural Resources Management and Biological Science Series](#)***

This series covers positions that involve professional work in biology, agriculture, or related natural resource management when there is no other more appropriate series. Thus included in this series are positions that involve: (1) a combination of several professional fields with none predominant; or (2) a specialized professional field not readily identified with other existing series.

0403 – [Microbiology Series](#)***

This series covers all classes of positions the duties of which involve the performance of scientific and professional work in the field of microbiology. Microbiology deals with the study of the characteristics and life processes of microorganisms, the interrelationships among microorganisms, their relationships to other living forms, and their reactions to the environment in which they are found. This includes: (1) work with the protozoa, bacteria, algae, fungi, viruses, rickettsiae, microscopic parasites and similar microscopic and submicroscopic forms; (2) work in such fields as immunology, medical parasitology, physiology, serology, genetics, taxonomy, and cytology as they relate to microorganisms; (3) studies of the form, structure, reproductive processes, genetics, taxonomy, and cytology as they relate to microorganisms and the products of their chemical activities; (4) studies of the distribution of microorganisms in natural and manmade environments (including agricultural and nonagricultural products and food processing establishments), their reaction to physical and chemical factors in the environment, their role as pathogenic and immunizing agents, and their isolation, cultivation, identification, and systematic classification; and (5) work that involves the development of scientific microbiological methods, procedures, and techniques, and the production and use of microorganisms in agricultural, industrial, medical, sanitary, and other practical applications.

0404 – [Biological Science Technician Series](#)**

This series covers all positions that primarily require a practical knowledge of the methods and techniques of one or more of the biological or agricultural sciences when the work is not more appropriately included in another technician series of the Biological Sciences Group, 0400. Biological science technicians provide practical technical support to production, research, operations, or program administration efforts in laboratories, field, or other settings including greenhouses, barns, caves, or wildlife refuges.

0405 – [Pharmacology Series](#)

This series covers positions the duties of which are primarily to administer, advise on, supervise, or perform research, analytical, advisory, or other professional and scientific work in the discipline of pharmacology. Such work requires the application of a knowledge of the history, sources, physical and chemical properties, biochemical, toxic, and physiological effects, mechanisms of action, absorption, distribution, metabolism, biotransformation and excretion, and therapeutic and other uses of drugs. Pharmacology: (1) involves the many aspects of the action of drugs or similar agents on living systems and their constituent parts, ranging from the intermolecular reactions of chemical compounds in a cell with drugs, to the evaluation of the effectiveness of a drug or agent in the treatment of human disease; and (2) requires intensive preparation and training in organic chemistry, biochemistry, physiology, and pharmacology; the application and interpretation of a full range of methods, procedures, and techniques relative to the action of drugs or similar agents, but does not require full professional training in medicine or veterinary medicine.

0408 – [Ecology Series](#)***

This series covers positions that involve primarily advisory, research, analytical, or other professional work in the science of ecology. Ecology utilizes a systems approach to study the interrelationships of organisms with each other, with their physical and chemical environment, and with society. Such relationships are considered primarily at the levels of individuals, populations, communities, and ecosystems. Ecologists analyze biological components and processes in the context of ecosystems including environmental factors, physical-chemical relationships, and social relationships. They use quantitative and systems analysis techniques to predict effects of planned or natural changes in ecosystems and to develop understanding of and solutions to ecological problems.

0410 – [Zoology Series](#)***

This series covers positions that involve work in the field of zoology, including classification, structure, ecology, parasitological phenomena, evolution and the life history of animals. This work requires professional education and training in the animal and related natural sciences, and knowledge of the principles, methods, techniques, and procedures applied in the investigation, and solution of zoological problems.

0413 – [Physiology Series](#)***

This series covers all classes of positions the duties of which are to advise on, administer, supervise, or perform research or other professional and scientific work in the field of human and animal physiology, including studies of the functions, environmental response, and biological activities and processes of the basic living organism and its component parts.

0414 – [Entomology Series](#)***

This series covers positions the duties of which are to advise on, administer, supervise, or perform professional and scientific work in the field of entomology that requires a fundamental knowledge of the principles of the biological and physical sciences that underlie the field and a specific knowledge of the application of these principles to the solution of entomological problems.

0415 – [Toxicology Series](#)***

This series covers positions the duties of which are primarily to administer, advise on, supervise, or perform research, analytical, advisory, or other professional and scientific work in the discipline of toxicology. Such work involves the study of adverse effects of chemical substances or similar agents on living organisms and/or the environment, and the assessment of the probability of their occurrence under specified conditions of use or exposure. Toxicology: (1) involves the study of the interaction of chemical and physical agents and biological systems, the exploration of the nature and mechanisms of adverse reactions, and the assessment of the likelihood that adverse effects will occur; and (2) requires the application of scientific knowledge including, but not limited to, pathology, anatomy, chemistry, biochemistry, microbiology, physiology, pharmacology, toxicology, and materials sciences (e.g., as they pertain to the interrelationships of composition, structure, and properties) but does not require full preparation for practice in any one of those disciplines or full professional training in medicine or veterinary medicine.

0421 – [Plant Protection Technician Series](#)**

This series covers all positions that primarily require a practical knowledge of the methods and techniques of plant protection and quarantine. Plant protection technicians provide technical support in research efforts; in the establishment and enforcement of plant quarantines governing the movement of insects, plant diseases, nematodes, and other plant pests of economic importance; or in the survey, detection, field identification, control or eradication of plant pests. The duties require the application of a practical knowledge of the types and characteristics of plant pests, quarantine procedures, pest control and eradication methods, and plant pest survey techniques.

0430 – [Botany Series](#)***

This series covers positions that involve research or other professional scientific work in the field of botany, including plant taxonomy, morphology, ecology, and ethnobotany. This work requires full professional education and training in the plant sciences and a fundamental knowledge of the principles, methods, techniques, procedures, and relationships of the science of botany and of the application of this knowledge in the investigation, analysis, and solution of botanical problems.

0434 – [Plant Pathology Series](#)***

This series covers all classes of positions the duties of which are to advise on, administer, supervise, or perform research or other professional and scientific work in the investigation of the cause, nature, prevalence, and severity of parasitic, nonparasitic, and virus diseases attacking plants; experimentation in and the establishment of methods for the prevention and control of such diseases; or the relation of such diseases to practices involved in the propagation, planting, cultivation, transportation, and storage of plants and plant products; or any combination thereof.

0435 – [Plant Physiology Series](#)***

This series covers positions that involve research or other professional and scientific work pertaining to one or more of such vital functions as plant growth, nutrition, respiration, and reproduction that are essential to the life of the plant or its use. This includes work on the internal processes such as assimilation, photosynthesis, translocation, or transpiration that are involved in vital functions; or on the influence that one or more environmental factors, such as humidity, water, light, mineral nutrients, and temperature have on these functions and processes.

0437 – [Horticulture Series](#)***

This series covers all classes of positions the duties of which are to advise on, administer, supervise, or perform research or other professional and scientific work in the behavior, breeding, or culture (or any combination thereof) of fruits, vegetables, flowers, or ornamental trees and shrubs, and in allied problems of their production, storage, and handling.

0440 – [Genetics Series](#)***

This series covers all classes of positions the duties of which are to advise on, administer, supervise, or perform professional research in the principles and mechanisms of transmission of characters by inheritance, including in some instances the application of these principles in planning breeding programs.

0454 – [Rangeland Management Series](#)***

This series covers positions that require primarily professional knowledge and competence in rangeland management to perform work involving the preservation, development, and management of rangelands. This includes the ability to analyze and protect the natural resources, to develop programs and standards for rangeland use and conservation, and to advise State officials, and private and Indian landowners in rangeland management practices.

0455 – [Range Technician Series](#)**

This series covers all positions that primarily require a practical knowledge of the methods and techniques of range conservation and related resource management fields. Range technicians provide practical technical support in range research efforts; in the marketing of the range resource; and in the scientific management, protection, and development of grasslands and other range resources.

0457 – [Soil Conservation Series](#)***

This series covers positions involving the performance of professional work in the conservation of soil, water, and related environmental resources to achieve sound land use. Conservation work requires knowledge of: (1) soils and crops; (2) the pertinent elements of agronomy, engineering, hydrology, range conservation, biology, and forestry; and (3) skill in oral and written communication methods and techniques sufficient to impart these knowledge to selected client groups.

0458 – [Soil Conservation Technician Series](#)**

This series covers all positions that require a practical knowledge of the methods and techniques of soil, water, and environmental conservation as they relate to agricultural operations and land use measures. Soil conservation technicians advise property holders on the effectiveness of applying soil and water conservation practices or assist in research efforts.

0459 – [Irrigation System Operation Series](#)*

This series covers positions that involve the management or operation of irrigation systems, where the work requires primarily knowledge of the methods and procedures used in distributing, controlling, and measuring irrigation water.

0460 – [Forestry Series](#)***

This series covers positions that require primarily professional knowledge and competence in forestry science. The work includes development, production, conservation, and utilization of the natural resources of forests and associated lands; the inventory, planning, evaluation, and management of each forest resource including timber, soil, land, water, wildlife and fish habitat, minerals, forage, and outdoor recreation including wilderness, in relationship with each other to meet both present and future public and local private needs and demands; the protection of resources against fire, insects, disease, floods, erosion, and other depredations; the valuation, management and protection of forest lands and properties; the interpretation and communication of principles, facts and legislation upon which the management of forest land rests; and the development of new, improved, or more economic scientific methods, practices, or techniques necessary to perform such work.

0462 – [Forestry Technician Series](#)**

This series covers all positions that primarily require a practical knowledge of the methods and techniques of forestry and other biologically based resource management fields. Forestry technicians provide practical technical support in forestry research efforts; in the marketing of forest resources; or in the scientific management, protection, and development of forest resources.

0470 – [Soil Science Series](#)***

This series covers positions that involve professional and scientific work in the investigation of soils, their management, and their adaptation for alternative uses. Such work requires knowledge of chemical, physical, mineralogical and biological properties and processes of the soils and their relationships to climatic, physiographic, and biologic influences.

0471 – [Agronomy Series](#) ***

This series covers all classes of positions the duties of which involve the performance of professional and scientific work in the field of agronomy, including the application of the fundamental principles of the plant, soil, and related sciences, (and those affecting the water relationships involved) to the improvement, production, management, and utilization of field crops, pasture and cover crops, turf, and related types of vegetation; to soil and crop management; to the development and use of weed controls and plant regulators; and to related fields.

0480 – [Fish and Wildlife Administration Series](#)***

This series covers all classes of positions that involve professional and scientific work in administering, directing, or exercising administrative and technical control over programs, regulatory activities, projects, or operations that are concerned with the conservation and management of fishery resources, wildlife resources, or fish and wildlife resources.

0482 – [Fish Biology Series](#)***

This series covers positions that require professional knowledge and competence in the science of fishery biology to perform work: (1) developing, conserving, managing, and administering fishery resources; and (2) evaluating the impact of construction projects and other socioeconomic activities that present potential or actual adverse effects on fishery resources and their habitat. The work also requires an ability to determine, establish, and apply biological facts, principles, methods, techniques, and procedures that are necessary for the production and/or management of aquatic resources in their natural habitat and/or within facilities and systems that have been constructed for their benefit and public use.

0485 – [Wildlife Refuge Management Series](#)***

This series covers positions that require primarily professional knowledge and competence in the management, administration, and scientific operation of public lands and waters designated as national wildlife refuges. The work requires biological analyses, planning, and evaluation, and has as its principal purpose the conservation, protection, and propagation of wildlife species and the manipulation and utilization of their required habitat. The work involves a variety of activities in land, water, and habitat management, land planning, resource identification and allocation, administration, public relations, supervision, and other activities involving wildlife resource utilization, protection, inventory and evaluation, and maintenance of grasslands, marshes, and soils. The work also involves management considerations of land exploration and public, commercial, industrial, and agrarian land use.

0486 – [Wildlife Biology Series](#)***

This series covers positions that require professional knowledge and competence in the science of wildlife biology to perform work involving: (1) the conservation, propagation, management, protection, and administration of wildlife species; or (2) the determination, establishment, and application of biological facts, principles, methods, techniques, and procedures necessary for the conservation and management of wildlife resources and habitats. The work requires professional knowledge of the distribution, habits, life histories, and classification of birds, mammals, and other forms of wildlife.

0487 – [Animal Science Series](#)***

This series covers positions that involve research or other professional and scientific work in the field of animal science including nutritional, biophysical, biochemical, and physiological relationships. This work requires full professional education and training in the biological and agricultural sciences and a fundamental knowledge of the principles, methods, techniques, and relationships in the field of animal science and the application of this knowledge in the investigation, analysis, and solution of animal science problems.

0499 – Biological Science Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

0500 – ACCOUNTING AND BUDGET GROUP

This group includes all classes of positions the duties of which are to advise on, administer, supervise, or perform professional, technical, or related clerical work of an accounting, budget administration, related financial management, or similar nature.

Series in this group are:

0501 – [Financial Administration and Program Series](#)***

The series covers positions that perform, supervise, or manage administrative work of a fiscal, financial management, accounting, or budgetary nature that is not classifiable to another more specific professional or administrative series in the Accounting and Budget Group, 0500.

0503 – [Financial Clerical and Technician Series](#)***

This series covers positions the duties of which are to perform or supervise clerical or technician work in support of accounting, auditing, budgeting, or financial management functions when no other established series in the Accounting and Budget Group, 0500, is appropriate. The work requires a knowledge of the procedures and techniques involved in carrying out the work of an organization and involves application of procedures and practices within the framework of established guidelines.

0505 – [Financial Management Series](#)*

This series covers all classes of positions the duties of which are to manage or direct a program for the management of the financial resources of an organizational segment, field establishment, bureau, department, independent agency, or other organizational entity of the Federal Government when the duties and responsibilities include: (1) developing, coordinating, and maintaining an integrated system of financial staff services including at least accounting, budgeting, and management-financial reporting, and sometimes also one or more of such related staff services as auditing, credit analysis, management analysis, etc.; (2) exercising effective control over the financial resources of the organization; (3) coordinating and synthesizing financial and management data so as to interpret the composite financial results of operations to all levels of the organization's management; (4) advising on, developing, coordinating, and carrying out financial policies, procedures, and plans; (5) reviewing, analyzing, evaluating, and reporting upon program accomplishments in financial terms; and (6) advising and assisting the management officials of the organization served by supplying financial management advice required to make management decisions, establish organizational goals and objectives, and in all respects to manage the organization.

0510 – [Accounting Series](#)***

This series covers positions that advise on or administer, supervise, or perform professional accounting work that requires application of accounting theories, concepts, principles, and standards to the financial activities of governmental, quasi-governmental, or private sector organizations. The work includes:

- designing, developing, operating, or inspecting accounting systems;
- prescribing accounting standards, policies, and requirements;
- examining, analyzing, and interpreting accounting data, records, and reports; or
- advising or assisting management on accounting and financial management matters.

Accounting theories, concepts, principles, and standards address these types of duties:

- determining the boundaries of an accounting entity; recognizing and measuring revenues;
- matching revenues and expenses by applying methodologies such as accrual accounting and depreciation; defining and measuring costs by application of methodologies such as standard, process, job-order, and activity-based costing; and
- full disclosure on financial statements.

0511 – [Auditing Series](#)***

This series covers positions that apply professional accounting and auditing knowledge, standards, and principles when performing these duties:

- advising on, supervising, or performing work consisting of a systematic examination and appraisal of financial records, financial and management reports, management controls, policies and practices affecting or reflecting the financial condition and operating results of an activity;
- analyzing work related to developing and executing audit policies and programs;
- conducting performance audits; or
- conducting activities related to the detection of fraud, waste and abuse.

0512 – [Internal Revenue Agent Series](#)***

This series covers positions that determine or advise on liability for Federal taxes when such work requires a professional knowledge of accounting theories, concepts, principles and standards and in addition, a knowledge of pertinent tax laws, regulations and related matters. This series is unique to the Internal Revenue Service (IRS), U.S. Department of the Treasury.

0525 – [Accounting Technician Series](#)***

This series covers account maintenance clerical and accounting technician support positions requiring a basic understanding of accounting systems, policies, and procedures in performing or supervising the examination, verification, and maintenance of accounts and accounting data. Also included are positions that perform technical audit functions, develop or install revised accounting procedures, or perform similar quasi-professional accounting work. Positions in this series require a knowledge of existing accounting systems, standard accounting codes, classifications, and terminology; an understanding of agency accounting policies, procedures, and requirements; and the ability to apply various accounting methods, forms and techniques, but less than the broad understanding and theoretical knowledge of accounting acquired through professional education and training.

0526 – [Tax Specialist Series](#)***

This series covers positions that determine, supervise, educate, advise, and perform work related to Federal tax liability and, as required, duties and tariffs when such work involves contact with taxpayers, manufacturers, producers, importers, third-party organizations and/or their representatives. Work involves these types of duties:

- analyzing programs that provide tax, duty and tariff, and revenue-related accounting advisory and consultation services; and/or
- examining and/or reviewing financial documents or practices affecting the financial condition of an activity.

Work requires knowledge of financial accounting principles, practices, and methods as well as knowledge of pertinent laws, regulations, and rulings pertaining to taxes, and/or, as required, duties and tariffs.

0530 – [Cash Processing Series](#)***

This series covers positions that involve clerical work in the receipt, disbursement, examination, deposit, custody, or other clerical processing of cash items, when this includes: (1) direct handling of the cash items; and (2) use of cash accountability control methods. The work requires application of knowledge of: (1) the negotiability, validity, and genuineness of cash items; (2) the acceptability requirements of supporting documents; and (3) cash processing procedures of Federal agencies and commercial institutions.

0540 – [Voucher Examining Series](#)***

This series covers all classes of positions the duties of which are to administer, supervise, or perform work consisting of the examination for accuracy, legality, compliance with regulations, and justification of vouchers, invoices, claims, and other requests for payment for: (1) goods and services provided to or by the Government; (2) satisfaction of breach of contract or default in fulfilling contractual obligations; (3) reimbursement of expenditures made by beneficiaries for such purposes as medical and domiciliary care and treatment, burial expenses, and education and training; (4) reimbursement of expenditures for travel and transportation; or (5) other transactions when such examination of the request for payment is not classifiable in another series.

0544 – [Civilian Pay Series](#)***

This series covers positions concerned with the determination of pay, the maintenance of payroll records, and the compilation of related reports pertaining to civilian employees of the Federal Government, and/or with the establishment, maintenance, review, and disposition of time and leave records for civilian employees of the Federal Government. Positions in the Civilian Pay Series require: (1) substantial knowledge of civilian pay and/or leave rules, regulations, procedures, programs, and systems requirements; and (2) a knowledge of those civilian personnel rules and regulations that affect pay.

0545 – [Military Pay Series](#)***

This series covers positions the primary duties of which are to supervise, lead, or perform work to establish, maintain, correct, and close pay accounts for active, reserve, or retired armed forces personnel and their annuitants. Work in this series requires a knowledge of military pay entitlement laws, regulations, and procedures.

0560 – [Budget Analysis Series](#)***

This series covers positions that perform, advise on, or supervise work in any of the phases of budget administration when such work requires knowledge and skill in applying budget-related laws, regulations, policies, precedents, methods, and techniques.

0561 – Budget Clerical and Assistance Series***

This series covers all positions the principal duties of which are to perform clerical and technical work in support of budget analysis and administration when such work requires primarily knowledge of the procedures that facilitate budgeting as conducted in the Federal service. Work in this series requires practical understanding and skill in the application of administrative rules, regulations, and procedures associated with recording, reporting, processing, and keeping track of budgetary transactions; e.g., the credit, receipt, transfer, allotment, withdrawal, obligation or outlay of funds.

0592 – Tax Examining Series***

This series covers all positions the paramount duties of which are to perform or supervise work in the Internal Revenue Service involving the processing of original tax returns, establishing tax account records or changing such records based on later information affecting taxes and refunds; collecting some taxes and/or obtaining tax returns; computing or verifying tax, penalty and interest; and determining proper tax liability. This work requires knowledge of standardized processing and collection procedures to record tax information and knowledge of applicable portions of tax laws and tax rulings to accept, request proof of or reject a variety of taxpayer claims, credits and deductions.

0593 – Insurance Accounts Series***

This series covers all classes of positions the duties of which are to administer, supervise, or perform work involved in the processing and adjusting of individual insurance accounts. Included in this series is such work as: examining account records to determine that all previous actions have been made according to laws, regulations, and procedures; effecting non-standard adjustments that cannot be automatically processed by the equipment; and preparing and processing a variety of documents necessary for the maintenance of individual accounts, including the preparation of input documents for maintenance of the accounts by an automatic data processing system. Work characteristic of this series requires a thorough understanding of Federal life insurance laws, rules, and regulations, as well as established precedents.

0599 – Financial Management Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

0600 – MEDICAL, HOSPITAL, DENTAL, AND PUBLIC HEALTH GROUP

This group includes all classes of positions the duties of which are to advise on, administer, supervise, or perform research or other professional and scientific work, subordinate technical work, or related clerical work in the several branches of medicine, surgery, and dentistry or in related patient care services such as dietetics, nursing, occupational therapy, physical therapy, pharmacy, and others.

Series in this group are:

0601 – General Health Science Series

This series covers positions that involve research or other professional and scientific work that is specifically health-oriented in character, when the work is of such generalized or miscellaneous specialized nature that the positions are not more appropriately classifiable in any of the existing series in this or any other Group. The work requires a background of knowledge, skills and techniques gained from professional training in a health science or allied scientific field, but has no paramount, rigid or continuing requirement for the knowledge, skills and techniques characterizing any of the established series that reflect one or more of the academic disciplines or recognized professions. Such work may cut across and require understanding of scientific methods and techniques common to several recognized professional fields in the health, medical or allied sciences (e.g., work in the field of health research administration requiring knowledge of research methodology common to a number of different scientific fields); and/or the work may represent a new, emerging or miscellaneous professional occupational area of a health science not readily identifiable with established series. This series is not intended for use for interdisciplinary professional positions (and the paramount qualification needed to perform the work) that are readily identifiable with existing series.

0602 – [Medical Officer Series](#)*

This series covers all classes of positions the duties of which are to advise on, administer, supervise, or perform professional and scientific work in one or more fields of medicine. Positions are classifiable to this series when the nature of duties and responsibilities is such that the degree of Doctor of Medicine or Doctor of Osteopathy is a fundamental requirement. Most positions in this series require a current license to practice medicine and surgery in a State or Territory of the United States or in the District of Columbia.

0603 – Physician's Assistant Series

This series covers positions that involve assisting a physician by providing diagnostic and therapeutic medical care and services under the guidance of the physician. The work requires knowledge of specific observation and examination procedures, and ability to perform diagnostic and therapeutic tasks. The work does not include the full scope of interpretation of medical findings requiring the full professional background of the licensed physician. Physician's assistants assist in the examination and observation of patients by performing such duties as taking case histories, conducting physical examinations, and ordering laboratory studies during hospital rounds and clinic visits. As directed by a physician, physician's assistants carry out special procedures; for example, they give injections or other medication, apply or change dressing, perform lumbar punctures, or suture minor lacerations.

0610 – [Nurse Series](#)*

This series covers positions that require a professional knowledge of nursing. Positions involve providing care to patients in hospitals, clinics, occupational health units, homes, schools and communities; administering anesthetic agents and supportive treatments to patients undergoing surgery or other medical procedures; promoting better health practices; teaching; performing research in one or more phases of the field of nursing; or consulting and advising nurses who provide direct care to patients.

0620 – [Practical Nurse Series](#)*

This series covers positions that involve a variety of nursing care and practices that do not require full professional nurse education, but are represented by the licensing of practical and vocational nurses by a State, Territory, or the District of Columbia.

0621 – [Nursing Assistant Series](#)*

This series covers positions that involve a variety of personal care, nursing care, or related procedures that do not require: (1) the knowledge and skills represented by the licensure of practical and vocational nurses by a State, Territory, or the District of Columbia, or (2) fully professional nurse education.

0622 – [Medical Supply Aide and Technician Series](#)*

This series contains positions the duties of which are to provide wards, clinics, operating rooms, and other hospital facilities with medical supplies, instruments, sets, and equipment. Duties require knowledge of aseptic techniques and sterilization practices; the care, functioning, and uses of supplies, equipment, sets, and instruments; and methods for the preparation, storage, and issue of sterile and nonsterile medical supplies and the maintenance of adequate stock levels.

0625 – [Autopsy Assistant Series](#)*

This series covers all classes of positions the paramount duties and responsibilities of which are to provide technical assistance and related services to pathologists or physicians during autopsies and/or inquests. Characteristic of positions in this series is some knowledge of human anatomy and of embalming processes, and skill in dissecting procedures.

0630 – [Dietitian and Nutritionist Series](#)*

This series covers positions that advise on, administer, supervise, or perform work in human nutrition requiring the application of professional knowledge of dietetics or nutrition directed toward the maintenance and improvement of human health. Dietetics is an essential component of the health sciences, usually with emphasis on providing patient care services in hospitals or other treatment facilities. The work of the dietitian includes food service management, assessing nutritional needs of individuals or community groups, developing therapeutic diet plans, teaching the effects of nutrition on health, conducting research regarding the use of diet in the treatment of disease, or consulting on or administering a dietetic program.

Nutrition is the science of food and nutrients, their uses, processes, and balance in relation to health and disease. The work of nutritionists emphasizes the social, economic, cultural, and psychological implications of food usually associated with public health care services or with food assistance and research activities. The work includes directing, promoting, and evaluating nutritional components of programs and projects; developing standards, guides, educational and informational material for use in Federally funded or operated nutrition programs; participating in research activities involving applied or basic research; or providing training and consultation on nutrition.

0631 – [Occupational Therapist Series](#)*

This series covers positions requiring professional knowledge of the concepts, principles and practices of occupational therapy to provide clinical services, supervise or train students and therapist, or perform research with people who have impaired capacities for performing activities appropriate to their age group. The work requires knowledge of the structure and function of the human body, environmental influences, human development, physical and psycho-social dysfunctions, and skill in developing treatment plans to teach new skills, restore performance, or learn compensating skills.

0633 – [Physical Therapist Series](#)*

This series covers positions that involve professional work requiring the application of a knowledge of the concepts, principles, and practices of physical therapy for the treatment or prevention of physical disability or disease. Physical therapists plan and carry out treatment utilizing therapeutic exercise, massage, and physical agents such as air, water, electricity, sound, and radiant energy. Therapists perform tests and measurements involving manual or electrical means; and interpret results. Therapists also devise adaptations of equipment to meet the specific needs of patients.

0635 – [Kinesiotherapy Series](#)*

This series covers positions that involve professional work requiring the application of knowledge of the concepts, principles, and practices of physical education and rehabilitation therapy, using physical exercise to maintain the health or to achieve physical or mental rehabilitation of patients. Kinesiotherapists plan and carry out treatment in which they use or adapt various types of physical exercise, physical activities, and equipment. They evaluate patients for muscle strength, endurance, coordination, and balance; provide individual or group instruction for physical reconditioning or for resocialization of patients; and devise adaptations of equipment to meet the specific needs of patients.

0636 – [Rehabilitation Therapy Assistant Series](#)*

This series covers positions that involve treating, instructing or working with patients in carrying out therapeutic activities prescribed for their physical or mental rehabilitation. Rehabilitation therapy assistants work in such fields of therapy as occupational, physical, corrective, manual arts, and educational. The work requires the ability to apply a practical knowledge of therapeutic methods and techniques but does not require a full professional knowledge of the concepts, principles, and practices of the specialized field of therapy.

0637 – [Manual Arts Therapist Series](#)*

This series covers positions that involve professional work requiring the application of a knowledge of the concepts, principles, and practices of industrial arts education and rehabilitation therapy to plan and carry out treatment for the physical or mental rehabilitation of patients. Manual arts therapists evaluate vocational potential of patients; devise projects and equipment to maintain or improve skills of patients and promote recovery; and evaluate patient's ability to work in an actual or simulated work environment. Some manual arts therapists participate in the rehabilitation of blind patients.

0638 – [Recreation/Creative Arts Therapist Series](#)*

This series covers positions that involve professional work requiring application of either: (1) a knowledge of the concepts, principles, and practices of recreation therapy, and the use of recreational modalities; or (2) a knowledge of the concepts, principles, and practices of a specialized creative arts therapy field (i.e., art, dance, music, and psychodrama) and the use of appropriate specialized activity modalities to maintain the physical and/or mental health or to achieve the physical and/or mental rehabilitation of patients. These therapists evaluate the history, interests, aptitudes, and skills of patients by interviews, inventories, tests, and measurements, and use such findings, along with medical records and the therapy orders of physicians or nurses, to develop and implement therapy activities for individual patients. These several therapy approaches are directed toward achieving such therapeutic objectives as diminishing emotional stress of patients, providing a sense of achievement, channeling energies and interests into acceptable forms of behavior, aiding physical and mental rehabilitation, and promoting successful community reentry.

0639 – [Educational Therapist Series](#)*

This series covers positions that involve professional work requiring the application of knowledge of the concepts, principles, and practices of education and rehabilitation therapy. Educational therapists plan and carry out treatment that involves the use of educational situations, equipment, and methods to rehabilitate patients. They evaluate the learning ability or educational level of patients by use of educational tests and measurements. Some educational therapists participate in the rehabilitation of blind patients. The activities of educational therapists are directed to achieving therapeutic objectives such as diminishing emotional stress of a patient, providing a sense of achievement, and channeling energies into acceptable forms of behavior.

0640 – [Health Aid and Technician Series](#)**

This series covers positions involving nonprofessional work of technical, specialized, or support nature in the field of health or medicine when the work is of such generalized, specialized or miscellaneous nature that there is no other more appropriate series. Such work is either: (1) characteristic of two or more specialized nonprofessional series in the Medical, Dental, and Public Health Group, 0600, when no one type of work controls the qualification requirements, or (2) sufficiently new, unique, or miscellaneous that it is not specifically included in a specialized nonprofessional series in the Group.

0642 – Nuclear Medicine Technician Series

This series covers positions that involve using radionuclides (exclusive of sealed radiation sources) for diagnostic, therapeutic, and investigative purposes. Such positions require a technical knowledge of the principles and practices of nuclear medicine and the ability to perform tests and examinations using radionuclides, radiation detectors, scanning apparatus, and related equipment in medical laboratories and clinics.

0644 – [Medical Technologist Series](#)*

This series covers positions that require professional knowledge and competence in the field of medical technology. Medical technology involves performing, advising on, or supervising clinical laboratory testing of human blood, urine, and other body fluids or tissues, using manual or automated techniques; confirming test results and developing data that may be used by physicians in determining the presence and extent of disease or in support of medical research; modifying or designing laboratory procedures; establishing and monitoring quality control systems and measures; and providing instruction in the basic theory, technical skills, and application of laboratory test procedures. Medical technology includes work in such areas as hematology, bacteriology, mycology, virology, parasitology, immunology, serology, immunohematology (blood banking), clinical chemistry (including endocrinology and toxicology), and urinalysis as they relate to clinical laboratory practice.

0645 – [Medical Technician Series](#)*

This series covers positions that involve nonprofessional technical work in clinical (medical) laboratories in performing tests and examinations in one or more areas of work such as chemistry, blood banking, hematology, or microbiology. The reports of findings of tests and examinations may be used by physicians in diagnosis, care and treatment of patients, or in support of medical research. The work requires a practical knowledge of the techniques of medical laboratory practice in one or more areas of clinical laboratory work (e.g., blood banking, chemistry, hematology, microbiology) and of the chemistry, biology, and anatomy involved.

0646 – [Pathology Technician Series](#)*

This series covers positions that involve technical work subordinate to the work of pathologists or other physicians (or other professional personnel) who make the final diagnostic examinations of specimens of human tissues and/or cell preparations. Technician work in histopathology involves preparing thin sections of tissue specimens including fixing, clearing, infiltrating, embedding, sectioning, staining, and mounting. Technician work in cytology involves preparing, staining, and examining microscopically specimens of body fluids, secretions, and exudations from any part of the body to determine whether cellular structure is normal, atypical, or abnormal. Positions in this series require a practical knowledge of the techniques of anatomical laboratory practice in one or both of the areas of laboratory work (i.e., histopathology and cytology) and of the chemistry, biology, and anatomy involved.

0647 – [Diagnostic Radiologic Technologist Series](#)*

This series covers positions requiring the performance or supervision of technical work in the field of diagnostic radiologic examinations, performed under the direction of a physician. The work involves the operation of radiologic equipment in a hospital or clinic environment as part of the diagnostic plan for patients.

0648 – [Therapeutic Radiologic Technologist Series](#)**

This series covers positions that involve supervision or performance of technical work that is subordinate to the work of radiotherapists or other professional or scientific personnel that involves the operation of ionizing radiation equipment and sealed radiation sources as part of a therapeutic treatment plan for patients.

0649 – [Medical Instrument Technician Series](#)*

This series covers positions that perform diagnostic examinations or medical treatment procedures as part of the diagnostic or treatment plan for patients. The work involves operating or monitoring diagnostic and therapeutic medical instruments and equipment associated with cardiac catheterization, pulmonary examinations and evaluations, heart bypass surgery, electrocardiography, electroencephalography, hemodialysis, and ultrasonography. Positions in this series require a knowledge of the capabilities and operating characteristics of one or more kinds of instruments and a practical knowledge of human anatomy and physiology. Positions also require a practical understanding of medical data generated by patient/equipment connections. Some positions also require a practical knowledge of chemistry, pharmacology, physics, and mathematics.

0650 – [Medical Technical Assistant Series](#)*

This series covers all classes of positions the duties of which are to supervise and perform technical work that is subordinate to professional work in medicine and dentistry, in penal and correctional institutions.

0651 – [Respiratory Therapist Series](#)*

This series covers positions that involve the supervision or performance of technical work concerned with administering therapeutic and diagnostic respiratory care and life support to patients with cardiopulmonary deficiencies and abnormalities. The work involves: operating and monitoring respiratory equipment such as continuous and intermittent ventilators, medical gas delivery apparatus, incentive breathing/hyperinflation devices, environmental control systems, and aerosol devices; administering medical gases, humidification, aerosols, and respiratory medications; maintaining clearance of patient's natural and artificial airways; obtaining blood samples and interpreting blood gas data; and providing primary assistance in cardiopulmonary resuscitation. Positions in this series require a knowledge of the operating characteristics and daily maintenance of respiratory equipment and devices and practical knowledge of human anatomy, physiology, chemistry, physics, and mathematics.

0660 – [Pharmacist Series](#)*

This series covers all positions that involve professional and scientific work in the field of pharmacy. The work typically involves the compounding of prescriptions of physicians, dentists, and other licensed practitioners; the formulation, preparation, bulk compounding, selection, dispensing and preservation of drugs, medicines, and chemicals; research and investigation in developing special vehicles or variations of standard formulas to meet the needs of individual patients and in developing original techniques of compounding and making available for use new investigational drugs; advising on drug therapy and usage; or performing administrative, consultative, or staff advisory work concerning the administration of a pharmacy program for hospital, clinic, or other medical care facility. Some positions involve the evaluation of drug proposals submitted by private industry and the surveillance of marketed drugs for safety and efficacy.

0661 – [Pharmacy Technician Series](#)*

This series covers positions that involve technical support work in a pharmacy under the supervision of a registered pharmacist. The work requires application of a practical knowledge of: pharmaceutical nomenclature; characteristics, strengths, and dosage forms of pharmaceuticals; pharmaceutical systems of weights and measures; operation and care of pharmacy equipment; and pharmaceutical procedures and techniques.

0662 – [Optometrist Series](#)*

This series covers positions that require the application of professional optometric knowledge and skills in examining and analyzing the eye for diseases and defects and prescribing correctional lenses or exercises. Except for positions not involving patient care responsibility (e.g., research optometrist) positions in this series require a current license to practice optometry in a State or Territory of the United States or in the District of Columbia.

0664 – [Restoration Technician Series](#)*

This series covers all classes of positions the duties of which are to advise on, supervise, or perform technical work involving the development, design, fabrication, fitting to patients, and repair of custom-made medically prescribed appliances that are used primarily for cosmetic and restorative purposes. The prime objective of the work is to compensate for loss or damage to various areas of the human body by restoring a normal appearance that will facilitate the patient's social and vocational rehabilitation. This objective is attained through the use of painting, sculpting, molding, and casting techniques, working with a wide variety of materials, in the fabrication of appliances that are as natural in appearance (size, form, texture, translucence, color, etc.) as the original tissues of the patient's normal feature or body member.

0665 – [Speech Pathology and Audiology Series](#)*

This series covers positions involving professional work in the study and/or treatment of human communications disorders, as reflected in impaired hearing, voice, language, or speech. The work requires professional knowledge of the nature of these disorders, their causes, and methods of therapeutic treatment. The work involves any one or combination of the following functions: (1) providing direct clinical services in the evaluation and resolution of communications disorders; (2) providing graduate level training in communications disorders; (3) planning and administering a comprehensive program for evaluating and treating communications disorders; and (4) planning, administering, and performing laboratory and clinical research in communications disorders.

0667 – [Orthotist and Prosthetist Series](#)*

This series covers positions that involve designing, fabricating, or fitting orthotic or prosthetic devices to preserve or restore function to patients with disabling conditions of the limbs and spine or with partial or total absence of limbs. The work requires: (1) knowledge of anatomy, physiology, body mechanics, the application and function of orthoses (braces and orthopedic shoes) and prostheses (artificial limbs), and of the materials available for the fabrication of such devices; (2) skill in the use of tools and specialized equipment; and (3) the ability to deal effectively with patients and their problems and to work with other members of the medical team.

0668 – Podiatrist Series

This series covers all classes of positions the duties of which are to perform professional work involved in the care and treatment of the feet, including work in the prevention, diagnosis, and treatment of foot diseases and disorders by physical, medical, and/or surgical methods; the writing of prescriptions for topical medications, corrective exercises, corrective footwear and other purposes; and/or investigative research for analytical evaluations and experimental purposes when such work requires the application of professional podiatry knowledge and skills.

0669 – [Medical Records Administration Series](#)*

This series covers positions the duties of which are to manage, advise on, preserve, analyze, and supervise the use of diagnostic and therapeutic medical records. Medical records administration personnel develop medical records policies and procedures and provide advice on the use of medical records. The work requires a knowledge of medical records administration and management skills and abilities.

0670 – [Health System Administration Series](#)*

Positions in this series have full line responsibility for the administrative management of a health care delivery system that may range from a nationwide network including many hospitals to a major subdivision of an individual hospital. The fundamental responsibility of health system administrators is to effectively use all available resources to provide the best possible patient care. This requires an understanding of the critical balance between the administrative and clinical functions in the health care delivery system, and ability to coordinate and control programs and resources to achieve this balance. These positions require the ability to apply the specialized principles and practices of health care management in directing a health care delivery system. They do not require the services of a qualified physician.

0671 – [Health System Specialist Series](#)**

Positions in this series provide support to health care management officials by analyzing, evaluating, advising on and/or coordinating health care delivery systems and operations. Such positions may be located within an operating health care facility or at a higher organizational echelon. In addition to a high degree of analytical ability, positions in this series require specialized knowledge of the basic principles and practices related to the management of health care delivery systems. These positions do not have line authority.

0672 – Prosthetic Representative Series

This series covers positions the duties of which are to administer, supervise, or perform work concerned with rendering prosthetic and sensory aids services to disabled patients. Included in this series is such work as (1) planning, developing, and directing a prosthetic and sensory aids program at either the national, regional, or local level; (2) serving as an advisor to physicians with regard to selection, prescription, and acquisition of prosthetic devices involving furnishing information concerning such matters as new developments in the field of prosthetics, and sources of supply for such devices; (3) counseling and advising patients and their families and representatives regarding eligibility for and the use of prosthetic and sensory aids; (4) interpreting prescriptions of medical officers in order to make certain proper prosthetic devices are selected for, or by, the patients; (5) authorizing the purchase, fabrication, or repair of prosthetic devices; (6) maintaining continuous liaison with manufacturers and dealers of prosthetic supplies, inspecting their facilities and services, and participating in the award of prosthetic appliance contracts; (7) participating in investigative studies by selecting patients as pilot wearers of newly developed prosthetic items, evaluating the usefulness of such items, and preparing data for the use of research project leaders or manufacturers; and (8) as required, giving technical and administrative advice and assistance on prosthetic problems to outlying stations.

This work requires the application and interpretation of laws concerning benefits available to disabled patients and of the regulations, procedures, and practices based thereon, and, in addition, a specialized knowledge of the medical and psychological problems directly related to the use of prosthetic devices; and a specialized knowledge and understanding of the fabrication and satisfactory fitting of prosthetic devices. (These positions are filled by persons who have a major disability and who have demonstrated their ability to wear and use successfully a major prosthetic device.)

This series does not include classes of positions described in, and classifiable to, the Contact Representative Series, 0962; Orthotist and Prosthetist Series, 0667; Restoration Technician Series, 0664; or Speech Pathology and Audiology Series, 0665; although incidental performance of some elements of the work of these series will not remove a position from the Prosthetic Representative Series.

0673 – [Hospital Housekeeping Management Series](#)*

This series covers all positions requiring application of administrative ability and technical knowledge in supervising or performing work in the development, coordination, direction, and management of hospital housekeeping programs. The major concern of such programs is the maintenance of environmental sanitation within acceptable levels of bacteriological, as well as visual cleanliness.

0675 – [Medical Records Technician Series](#)***

This series covers one-grade interval technical support positions that supervise, lead, or perform support work in connection with processing and maintaining medical records for compliance with regulatory requirements. It also covers positions that review, analyze, code, abstract, and compile or extract medical records data. The work requires a practical knowledge of medical record procedures and references and the organization and consistency of medical records. Positions also require a basic knowledge of human anatomy, physiology, and medical terminology.

0679 – [Medical Support Assistance Series](#)***

This series covers one-grade interval administrative support positions that supervise, lead, or perform support work in connection with the care and treatment given to patients in wards, clinics, or other such units of a medical facility. The work includes functions such as serving as a receptionist, performing record keeping duties, and providing miscellaneous support to the medical staff of the unit. This series includes work that requires a practical knowledge of computerized data entry and information processing systems, the medical facility's organization and services, basic rules and regulations governing visitors and patient treatment, and a practical knowledge of the standard procedures, medical records, and medical terminology of the unit supported.

0680 – [Dental Officer Series](#)*

This series covers positions involving advising on, administering, supervising, or performing professional and scientific work in the field of dentistry. Dentistry is concerned with the prevention, diagnosis and treatment of diseases, injuries and deformities of the teeth, the jaws, organs of the mouth, and other structures and connective tissues associated with the oral cavity and the masticatory system. The work of this series requires the degree of Doctor of Dental Surgery or Doctor of Dental Medicine.

0681 – [Dental Assistant Series](#)*

This series covers positions the duties of which are to receive and prepare patients for dental treatment; to prepare materials and equipment for use by the dentist; to assist a dentist at chairside or bedside in the treatment of patients; to perform reversible intra-oral procedures under the supervision of the dentist; to perform dental radiography work; and to keep records of appointments, examinations, treatments and supplies. This work requires a practical knowledge of standardized procedures and methods used in dentistry, and skill in the techniques and procedures of dental assistance.

0682 – [Dental Hygiene Series](#)*

This series covers all positions the duties of which are to perform, under the supervision and direction of a dentist, prophylactic dental treatment that includes application of topical medication and dental health education for patients within a clinical setting.

0683 – [Dental Laboratory Aid and Technician Series*](#)

This series covers positions that involve technical work in the fabrication and repair of dental prosthetic appliances on prescription of a dentist. This work requires a technical knowledge of dental anatomy and skill in the use of dental laboratory materials and equipment.

0685 – [Public Health Program Specialist Series*](#)

This series covers all positions that direct, supervise, or perform work that involves providing advice and assistance to State and local governments and to various public, nonprofit, and private entities on program and administrative matters relating to the development, implementation, operation, administration, evaluation, and funding by public health activities that may be financed in whole or in part by Federal funds; or conducting studies and performing other analytical work related to the planning, development, organization, administration, evaluation, and delivery of public health programs; or, other similar public health program work.

Positions in this series require specialized knowledge of the principles, practices, methods, and techniques of administering public health programs, but do not require full professional education and training in medical, social, or other disciplines.

0688 – [Sanitarian Series](#)**

This series covers positions that involve planning, developing, administering, evaluating, and promoting programs concerned with the elimination and prevention of environmental health hazards. Also included are positions that involve developing and revising health laws, rules, and regulations. These positions require a broad knowledge of any one or a combination of the health, agricultural, physical or biological sciences sufficient to understand the basic concepts, principles, methods, and techniques of environmental health; and a practical knowledge of health laws, rules, and regulations.

0690 – [Industrial Hygiene Series*](#)

This series covers all classes of positions the duties of which are to advise on, administer, supervise, manage, or perform professional and scientific work in industrial hygiene, including the identification and evaluation of conditions affecting the health and efficiency of employees, or the citizens of the adjacent community, the formulation and recommendation of measures to eliminate or control occupational health hazards, and the promotion of occupational health programs for instructing and motivating managers and employees in the prevention as well as correction of potential health hazards.

0696 – [Consumer Safety Series*](#)

This series covers professional positions concerned with enforcing the laws and regulations protecting consumers from foods, drugs, cosmetics, fabrics, toys, and household products and equipment that are impure, unwholesome, ineffective, improperly or deceptively labeled or packaged, or in some other way dangerous or defective. These positions require knowledge of various scientific fields such as chemistry, biology, pharmacology, and food technology. Consumer safety officers identify substances and sources of adulteration and contamination, and evaluate manufacturing practices, production processes, quality control systems, laboratory analyses, and clinical investigation programs.

0698 – [Environmental Health Technician Series](#)**

This series covers positions that involve investigating, evaluating, and providing information on sanitation practices, techniques, and methods for the purpose of identifying, preventing, and eliminating environmental health hazards. Positions in this occupation require a practical knowledge of basic environmental health concepts, principles, methods, and techniques, including survey and inspection techniques, and control and eradication methods.

0699 – Medical and Health Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

0700 – VETERINARY MEDICAL SCIENCE GROUP

This group includes positions that advise on, administer, manage, supervise, or perform professional or technical support work in the various branches of veterinary medical science.

Series in this group are:

0701 – [Veterinary Medical Science Series](#)*

This series covers positions that involve professional veterinary work to investigate, inspect, and deal with animal diseases, animal pollution, contamination of food of animal origin, health and safety of imported animals and animal products, safety and efficacy of many animals, as well as human, drugs and biological products, and cooperative enforcement activities involving both the public and private sectors. Such positions require the degree of Doctor of Veterinary Medicine or an equivalent degree; a knowledge of current, advanced, or specialized veterinary medical arts and science principles and practices of the profession; and the ability to apply that knowledge in programs established to protect and improve the health, products, and environment of or for the Nation's livestock, poultry, or other species for the benefit of human, as well as animal, well-being.

0704 – [Animal Health Technician Series](#)**

This series covers all positions that primarily involve performing technical work concerned with animal health in support of veterinarians or veterinary medical programs. The duties performed include inspection, quarantine, identification, and collection of specimens, vaccination, appraisal and disposal of diseased animals, and disinfection for the control and eradication of infectious and communicable animal diseases. Performance of the work requires a practical knowledge of normal and certain abnormal animal health conditions, agency policy and guidelines applicable to the work, and related animal health laws and regulations.

0799 – Veterinary Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

0800 – ENGINEERING AND ARCHITECTURE GROUP

This group includes all classes of positions the duties of which are to advise on, administer, supervise, or perform professional, scientific, or technical work concerned with engineering or architectural projects, facilities, structures, systems, processes, equipment, devices, material or methods. Positions in this group require knowledge of the science or art, or both, by which materials, natural resources, and powers are made useful.

Series in this group are:

0801 – General Engineering Series

This series covers all classes of positions the duties of which are to advise on, administer, supervise, or perform research or other professional and scientific work of a special or miscellaneous character that is not specifically classifiable in any other engineering series, but that involves the application of a knowledge of such engineering fundamentals as the strength and strain analysis of engineering materials and structures, the physical and chemical characteristics of engineering materials such as elastic limits, maximum unit stresses, coefficients of expansion, workability, hardness, tendency to fatigue, resistance to corrosion, engineering adaptability, engineering methods of construction and processing, etc.; or positions involving professional work in several branches of engineering.

0802 – [Engineering Technical Series](#)***

This series covers technical positions that require primarily application of a practical knowledge of: (1) the methods and techniques of engineering or architecture; and (2) the construction, application, properties, operations, and limitations of engineering systems, processes, structures, machinery, devices, and materials. The positions do not require professional knowledge and abilities for full performance and therefore do not require training equivalent in type and scope to that represented by the completion of a professional curriculum leading to a bachelor's degree in engineering or architecture. Excluded from this series are positions that are specifically covered by a more specialized technical series.

0803 – [Safety Engineering Series](#)**

This series covers positions that require the performance of professional engineering work to eliminate or control hazardous conditions resulting from human error, equipment and machine operations that may lead to injury to persons and damage to property. The work requires the application of: (1) advanced mathematical techniques; (2) professional engineering principles, methods, and techniques; (3) safety related elements of the physical sciences, ergonomics, psychology and physiology; and (4) safety principles, standards, practices, and analytical techniques.

0804 – Fire Protection Engineering Series

This series covers all classes of positions the duties of which are to advise on, administer, supervise, or perform research or other professional and scientific work in the investigation or development of fire prevention projects, the design, construction, inspection, testing, operation, or maintenance of firefighting or fire prevention apparatus, appliances, devices and systems, or the testing of fire resistant materials.

0806 – [Materials Engineering Series](#)**

This series covers professional positions in engineering or in engineering and physical science that are concerned primarily with the properties, processing, uses, and in-service behavior of engineering materials, where the work performed and the qualifications required are such that the position is not more characteristic of a series appropriate to some other academic discipline. The work is characterized by the following three qualification requirements: (1) a highly developed knowledge of materials and their properties, processing, uses, and behavior under environmental influences; (2) an understanding of and the ability to utilize advances of the fundamental materials sciences, e.g., as they pertain to the interrelationships of composition, structure, and properties; and (3) knowledge of and ability to apply pertinent engineering principles and practices including considerations such as cost, availability, fabrication, performance, and use.

0807 – [Landscape Architecture Series](#)*

This series covers positions the duties of which are to perform or supervise professional work in the planning and design of land areas and concurrent landscape construction and maintenance for integrated developments to meet specific human needs. It involves the analysis of land characteristics, operational requirements, land use intensities, and commensurate land values and includes the efficient correlation of ground and water forms, plant forms, structures, roads, and walks to serve esthetic, functional, economic, and other interrelated purposes. Positions in this series require professional landscape architectural planning and design ability and require knowledge of the allied physical planning fields of architectural and civil engineering, and the biological sciences of agronomy, plant ecology, horticulture, and botany as they affect land development.

0808 – [Architecture Series](#)*

This series covers positions the duties of which involve professional architectural work that typically requires: (1) knowledge of architectural principles, theories, concepts, methods, and techniques; (2) a creative and artistic sense; and (3) an understanding and skill to use pertinent aspects of the construction industry, engineering and the physical sciences related to the design and construction of new or the improvement of existing buildings.

0809 – [Construction Control Technical Series](#)***

This series covers positions that involve on site inspection of construction or the monitoring and control of construction operations. Positions in this occupation require application of: (1) practical knowledge of engineering methods and techniques; (2) knowledge of construction practices, methods, techniques, costs, materials, and equipment; and (3) ability to read and interpret engineering and architectural plans and specifications.

0810 – [Civil Engineering Series](#)*

This series includes professional positions in the field of civil engineering, typically requiring application of general knowledge of the physical sciences and mathematics underlying engineering, and specialized knowledge of: (1) mechanics of solids, particularly of soils, (2) hydraulics, (3) theory of structure, (4) strength of materials, (5) engineering geology, and (6) surveying. Positions in this series have responsibility for management, supervision or performance of: (1) planning, designing, constructing, and/or maintaining structures and facilities that provide shelter, support transportation systems, and control natural resources; (2) investigating, measuring, surveying and mapping the earth's physical features and phenomena; and (3) research and development activities pertaining to (1) or (2).

0817 – [Survey Technical Series](#)***

This series covers positions that require primarily the application of a technical knowledge of surveying methods, equipment, and techniques in the measurement or determination of distances, elevations, areas, angles, land boundaries, and other features of the earth's surface. Specifically included are topographic, hydrographic, geodetic, land, control, and construction surveying.

0819 – [Environmental Engineering Series](#)*

This series covers positions that involve professional engineering work to protect or improve air, land, and water resources in order to provide a clean and healthful environment. Such work requires the application of: (1) professional knowledge of the principles, methods, and techniques of engineering concerned with facilities and systems for controlling pollution and protecting quality of resources and the environment; and (2) an understanding of and the ability to utilize pertinent aspects of chemistry, biological sciences, and public health that pertain to the control or elimination of pollutants.

0828 – [Construction Analyst Series](#)*

This series covers positions that involve technical work requiring the application of a practical knowledge of both architectural design and construction practices for housing. This work includes the examination of drawings and specifications for compliance with standards and verification that construction complies with these standards; the estimation of costs of construction, extension, alteration, remodeling, or repair of housing; and the collection, analysis, and development of basic cost information on housing construction.

0830 – [Mechanical Engineering Series](#)*

This series covers professional positions in the field of mechanical engineering typically requiring the application of thermodynamics, mechanics, and other physical, mathematical and engineering sciences to problems concerned with the production, transmission, measurement, and use of energy, especially heat and mechanical power.

0840 – [Nuclear Engineering Series](#)*

This series covers positions that involve professional engineering work that is concerned primarily with the engineering principles and considerations relating to the atomic nucleus and the systems, processes, and materials required for the generation, controlled release, and utilization of nuclear energy. Nuclear engineering work requires the application of professional engineering knowledge in the research, development, design, construction, testing, installation, monitoring, operation and maintenance of nuclear reactors (fission or fusion) and other nuclear systems and immediate auxiliary or ancillary systems and equipment.

0850 – [Electrical Engineering Series](#)*

This series covers professional engineering positions that require primarily application of knowledge of: (1) the physical and engineering sciences and mathematics; (2) electrical phenomena; and (3) the principles, techniques, and practices of electrical engineering. The work pertains primarily to electrical circuits, circuit elements, equipment, systems, and associated phenomena concerned with electrical energy for purposes such as motive power, heating, illumination, chemical processes, or the production of localized electric or magnetic fields.

0854 – [Computer Engineering Series](#)**

This series covers professional engineering positions requiring primarily the application of knowledge of: (1) fundamentals and principles of professional engineering; (2) computer hardware, systems software, and computer system architecture and integration; and (3) mathematics, including calculus, probability, statistics, discrete structures, and modern algebra. The work pertains primarily to the research, design, development, testing, evaluation, and maintenance of computer hardware and software systems in an integrated manner.

0855 – [Electronics Engineering Series](#)*

This series covers professional engineering positions that require primarily application of knowledge of: (1) the physical and engineering sciences and mathematics; (2) electronic phenomena; and (3) the principles, techniques, and practices of electronics engineering. The work pertains primarily to electronic circuits, circuit elements, equipment, systems, and associated phenomena concerned with electromagnetic or acoustical wave energy or electrical information for purposes such as communication, computation, sensing, control, measurement, and navigation.

0856 – [Electronics Technical Series](#)***

This series covers positions that require: (1) the knowledge of the techniques and theories characteristic of electronics such as a knowledge of basic electricity and electronic theory, algebra, and elementary physics; (2) the ability to apply that knowledge to duties involved in engineering functions such as design, development, evaluation, testing, installation and maintenance of electronic equipment; and (3) a knowledge of the capabilities, limitations, operations, design characteristics, and functional use of a variety of types and models of electronic equipment and systems. Such knowledge is related to but less than a full professional knowledge of electronics engineering.

0858 – Biomedical Engineering Series

This series covers positions that involve professional work in biomedical engineering. The work requires the application of engineering concepts and methodology to investigate problems and phenomena of living systems to advance the understanding of these systems and improve medical practices; to develop materials, instruments, diagnostic and therapeutic devices, and other equipment applicable in the study of life systems and the practice of medicine; and to improve health service delivery systems for communities and within individual institutional components (hospitals, clinics, or other activities). Biomedical engineering work requires in addition to knowledge and skill in engineering disciplines a background in physiology and anatomy, and a practical facility in specialized subject matter areas such as computer applications, electronics, or mathematics.

0861 – [Aerospace Engineering Series](#)**

This series covers professional aerospace engineering positions involved in planning, research, development, design, test and evaluation, analysis, production, fabrication, operation, type certification, and/or maintenance of aerospace vehicles or integrally associated equipment. It also includes positions involved in investigating phenomena encountered in aerospace flight, monitoring and analyzing unknown or unfamiliar aerospace vehicles, piloting aerospace vehicles, developing aviation safety standards and regulations, and positions providing staff leadership and guidance related to aerospace engineering programs. The work requires application of scientific and engineering principles in the field of aeronautics and astronautics, such as aerodynamics, aeroacoustics, astro-dynamics, computational fluid dynamics, fluid mechanics, flight dynamics, flight structures, thermodynamics, flight propulsion, and energy conversion and use.

0871 – [Naval Architecture Series](#)*

This series covers all classes of positions the duties of which are to advise on, administer, supervise, or perform professional engineering work in the field of naval architecture that primarily concerns the form, strength, stability, performance, and operational characteristics of ships. The work of positions in this series includes research, design, development, construction, investigation, testing, arrangement, installation, and maintenance for all types of ships. This work involves the consideration and application of naval architectural principles and concepts; the making of stability and buoyancy calculations and developing data for launching, loading, operation, and drydocking of ships in a safe, efficient, and economical manner; and naval architectural investigations and development of data and criteria leading to improved ship design.

0873 – [Marine Survey Technical Series](#)***

This series covers all classes of positions the duties of which are to administer, supervise, or perform work primarily concerned with surveying Government-owned vessels, Government-operated vessels, or both, or privately owned and operated merchant vessels, including components installed thereon, to determine condition and need for an extent of work required to place the vessels in condition to meet specified requirements. Work of this series includes in combination: (1) the preparation of specifications, including estimates of labor and material costs to cover work determined to be necessary as a result of surveys; (2) the inspection and acceptance of the work accomplished to place the vessel in the condition specified; and (3) other work, such as preparation of reports, incidental to ship surveying. This series does not include work primarily concerned with inspection of the construction, assembly, modification, conversion, overhaul, or repair of vessels or inspections involved in the procurement of vessels, chiefly to assure compliance with contracts, plans, and specifications.

0880 – [Mining Engineering Series](#)*

This series covers positions that require primarily the application of professional knowledge of mining engineering. The work requires the ability to apply the principles of mathematics, chemistry, geology, physics, and engineering to mining technology. It also requires general knowledge of construction and excavation methods, materials handling, and the processes involved in preparing mined materials for use. Mining engineer positions are concerned with the search for, efficient removal, and transportation of ore to the point of use; conservation and development of mineral lands, materials, and deposits; and the health and safety of mine workers.

0881 – [Petroleum Engineering Series](#)*

This series covers positions that require primarily the application of a professional knowledge of petroleum engineering. The work is concerned with exploration and development of oil and natural gas fields; production, transportation, and storage of petroleum, natural gas, and helium; investigation, evaluation, and conservation of these resources; regulation of transportation and sale of natural gas; valuation of production and distribution facilities for tax, regulatory, and other purposes; and research on criteria, principles, methods, and equipment.

0890 – [Agricultural Engineering Series](#)*

This series covers professional positions that require primarily the application of the principles of engineering in combination with knowledge of one or more fields of agriculture. The work involves research, development, design, test, evaluation, and application of the fundamentals of engineering to aid in the solution of agricultural problems in such areas as farm structures, soil and water conservation, mechanical power and machinery, and electric power and processing.

0892 – Ceramic Engineering Series

This series covers professional engineering positions concerned with the development or adaptation of materials, methods, and processes used in the manufacture of ceramic products; and with the design, construction and operation of industrial processes and equipment used in their production. Ceramic products may be considered as those composed of nonmetallic, inorganic minerals that are subjected to high temperature during manufacture or use; and include crystalline materials with desired physical properties, cementitious materials, abrasives, refractories, porcelain enamels, structural clay products, whiteware, and glass products.

0893 – [Chemical Engineering Series](#)*

This series covers positions that involve professional work in chemical engineering, including research, development, design, operation, evaluation, and improvement of processes, plants, equipment, methods, or products. The work involves changes in the chemical composition or physical state of materials and requires primarily application of knowledge of the principles and practices of chemical engineering, chemistry, and other scientific and engineering disciplines.

0894 – Welding Engineering Series

This series covers all classes of positions the duties of which are to administer, supervise, advise on, coordinate, or perform engineering research or other professional engineering work involving the application of welding and engineering principles to the solution of problems in the development and improvement of welding equipment and processes, the design of welding sequences and welded structures, the establishment and maintenance of standards and quality controls for welding, the giving of advice to design and construction engineers on the production applicability of welding, and similar work regarding metallic joining or cutting processes allied to welding.

0895 – [Industrial Engineering Technical Series](#)***

This series covers nonprofessional technical positions engaged in industrial engineering work. Industrial engineering technician positions are concerned primarily with planning, designing, analyzing, improving, and installing integrated work systems comprised of men, materials, and equipment, for use in producing products, rendering services, repairing equipment, or moving and storing supplies and equipment. The work typically involves studies of engineered time standards, methods engineering, layout design of work centers, control systems, materials handling, or manpower utilization. It requires a knowledge of the principles and techniques of industrial engineering and practical knowledge of pertinent industrial and related work processes, facilities, methods, and equipment.

0896 – [Industrial Engineering Series](#)*

This series covers positions that involve professional work in industrial engineering. Industrial engineering is that branch of engineering concerned with the planning, design, analysis, improvement, and installation of integrated systems of employees, materials, and equipment to produce a product or render a service. The work requires application of specialized professional knowledge and skill in the mathematical, physical, and social sciences together with the principles and methods of engineering analysis and design to specify, predict, and evaluate the results to be obtained from such systems.

0899 – Engineering and Architecture Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

0900 – LEGAL AND KINDRED GROUP

This group includes positions that advise on, administer, supervise, or perform work of a legal or kindred nature.

Series in this group are:

0901 – [General Legal and Kindred Administration Series](#)**

This series covers two-grade interval administrative positions supervise, lead, or perform work involving two or more series in the Legal and Kindred Group, 0900 or positions that require legal and kindred administrative knowledge but are not covered by an existing administrative series within the group.

0904 – Law Clerk Series

This series covers positions of law clerk trainees performing professional legal work requiring graduation from a recognized law school or equivalent experience, pending admission to the bar.

0905 – [General Attorney Series](#)*

This series covers professional legal positions involved in preparing cases for trial and/or the trial of cases before a court or an administrative body or persons having quasi-judicial power; rendering legal advice and services with respect to questions, regulations, practices, or other matters falling within the purview of a Federal Government agency (this may include conducting investigations to obtain evidentiary data); preparing interpretative and administrative orders, rules, or regulations to give effect to the provisions of governing statutes or other requirements of law; drafting, negotiating, or examining contracts or other legal documents required by the agency's activities; drafting, preparing formal comments, or otherwise making substantive recommendations with respect to proposed legislation; editing and preparing for publication statutes enacted by Congress, opinions or discussions of a court, commission, or board; drafting and reviewing decisions for consideration and adoption by agency officials.

Included also are positions, not covered by the Administrative Procedure Act, involved in hearing cases arising under contracts or under the regulations of a Federal Government agency when such regulations have the effect of law, and rendering decisions or making recommendations for disposition of such cases. The work of this series requires admission to the bar.

0920 – Estate Tax Examining Series

This series covers positions concerned with determining liability for Federal estate or gift taxes. Such work requires knowledge of State, local, and Federal laws and regulations relating to estate and gift taxation; knowledge of accounting principles and theory; knowledge of business methods and practices; and knowledge of property valuation and investigative techniques.

0930 – Hearings and Appeals Series

This series covers positions that involve the adjudication of cases that typically include the conduct of formal or informal hearings that accord appropriate due process, arising under statute or under the regulations of a Federal agency when the hearings are not subject to the Administrative Procedure Act; or involve the conduct of appellate reviews of prior decisions. The work requires the ability to review and evaluate investigative reports and case records, conduct hearings in an orderly and impartial manner, determine credibility of witnesses, sift and evaluate evidence, analyze complex issues, apply agency rules and regulations and court decisions, prepare clear and concise statements of fact, and exercise sound judgment in arriving at decisions. Some positions require application of a substantive knowledge of agency policies, programs, and requirements in fields such as personnel management or environmental protection.

0945 – [Clerk of Court Series](#)**

This series covers two-grade interval administrative positions that supervise, lead, administer, or perform administrative and related work in connection with:

- proceedings instituted before courts of justice under the jurisdiction of a department or independent establishment in the executive branch of the United States Government; or
- business operations in connection with such courts.

0950 – [Paralegal Specialist Series](#)*

This series covers positions not requiring professional legal competence that involve various legal assistance duties, of a type not classifiable in some other series in the Legal and Kindred Group, in connection with functions such as hearings, appeals, litigation, or advisory services. The specialists analyze the legal impact of legislative developments and administrative and judicial decisions, opinions, determinations, and rulings on agency programs; conduct research for the preparation of legal opinions on matters of interest to the agency; perform substantive legal analysis of requests for information under the provisions of various acts; or other similar legal support functions that require discretion and independent judgment in the application of a specialized knowledge of laws, precedent decisions, regulations, agency policies and practices, and judicial or administrative proceedings. Such knowledge is less than that represented by graduation from a recognized law school, and may have been gained from formalized, professionally instructed agency or educational institution training or from professionally supervised on-the-job training. While the paramount knowledge requirements of this series are legal, some positions also require a practical knowledge of subject matter areas related to the agency's substantive programs.

0958 – Employee Benefits Law Series

This series covers positions that involve administering, supervising, or performing work requiring specialized knowledge of the provisions governing the administration of private sector employer or employee organization-sponsored pension, health, and welfare plans and the management of plan funds. This knowledge is used to: (1) interpret such laws as the Employee Retirement Income Security Act (ERISA), certain provisions of the Federal Employees' Retirement System Act (FERSA) relating to the Thrift Savings Plans, pertinent amendments, and tax law, as well as relevant court decisions, regulations, rulings, opinions, and appeal decisions; (2) prepare associated regulations, rulings, advisory opinions, appeal decisions, exemptions, and other technical guides; (3) examine legislative and public policy issues that affect the management, investment practices, assets, and viability of the nation's employee benefit plans; (4) formulate statutory, regulatory, and policy proposals; and/or (5) provide policy and technical guidance on matters of enforcement.

0962 – [Contact Representative Series](#)***

This series covers one-grade interval administrative support positions that supervise, lead, or perform support and related work in connection with:

- dispersing information to the public on rights, benefits, privileges, or obligations under a body of law;
- explaining pertinent legal provisions, regulations, and related administrative practices, and their application to specific cases; and
- assisting individuals in developing needed evidence and preparing required documents or in resolving errors, delays, or other problems in obtaining benefits or fulfilling obligations.

0963 – [Legal Instruments Examining Series](#)***

This series covers one-grade interval administrative support positions that supervise, lead, or perform support and related work in connection with the examination of legal instruments and supporting documents, other than claims, to determine whether a requested action complies with certain provisions of various laws. The work requires the application of particular regulatory and procedural knowledge that is based on those laws.

0965 – [Land Law Examining Series](#)*

This series covers positions the duties of which are to administer, supervise, or perform quasi-legal work involved in processing, adjudicating and advising on applications and claims for rights, privileges, gratuities, or other benefits authorized under the various public land, mineral leasing, and mining laws. The work requires knowledge of governing public laws and agency policies and procedures regarding the application of these laws, but does not require full professional legal training.

0967 – [Passport and Visa Examining Series](#)*

This series covers positions that involve managing, supervising, or performing administrative work concerned with adjudicating applications for United States passports or visas, including related work involving determining citizenship or fitness of non-citizens for admission to the United States. The work requires knowledge of legal and regulatory provisions governing U.S. citizenship, nationality, and/or visas; and principles, systems, and operations related to the issuance of passports or other citizenship registration, certificates, or visas.

0986 – [Legal Assistance Series](#)***

This series covers one-grade interval administrative support positions that supervise, lead, or perform legal assistance work not classifiable in any other series in the Legal and Kindred Group, 0900. The work requires specialized knowledge of processes, procedures, and practices to support legal activities.

0987 – Tax Law Specialist Series

This series covers all classes of positions, not classifiable in any other series, the principal duties of which are to administer, supervise, or perform quasi-legal technical tax work requiring analysis and application of tax principles and specialized knowledge of the Internal Revenue Code and related laws, court decisions, regulations, and precedent rulings of the Internal Revenue Service, not requiring legal training equivalent to that represented by graduation from a recognized law school; in such functions as: (1) interpreting the Internal Revenue Code, related laws, regulations, rulings, and precedents; (2) preparing regulations, rulings, and technical guides; and (3) making or reviewing determinations and decisions in such matters.

0991 – [Workers' Compensation Claims Examining Series*](#)

This series covers quasi-legal positions concerned with work involving the examination, development, and adjudication of claims for compensation (monies and medical services) under the Federal Employees' Compensation Act, and/or the Longshoremen's and Harbor Workers' Compensation Act, and/or their statutory extensions. Such work requires a comprehensive knowledge of the workers' compensation program, and an extensive lay medical knowledge of impairments and diseases.

0993 – [Railroad Retirement Claims Examining Series](#)**

This series covers positions that involve managing, supervising, or performing work concerned with the administration and operation of national railroad retirement benefit programs. This includes: (1) examining, adjudicating, adjusting, authorizing, or reconsidering applications and claims for retirement, disability, survivor, and related benefits; (2) providing guidance, consultation, and staff assistance to organizations and individuals regarding retirement and related benefits; (3) formulating and evaluating program policies and functions; (4) developing procedures, methods, work aids, technical guides, and other reference material for program operations; (5) auditing the annuitant and survivor rolls and taking actions to prevent fraudulent payments; and (6) developing or conducting program training. Positions included in this series primarily require knowledge of the laws, regulations, principles, and operational requirements of national railroad retirement benefit programs; knowledge of the interrelationships among these programs and other related public and private sector programs; and analytical skills and abilities used in planning, developing, evaluating, or carrying out the operation and delivery of these programs. All positions require knowledge, skills, and abilities sufficient to adjudicate, authorize or reconsider claims for benefits.

0996 – [Veterans Claims Examining Series*](#)

This series covers positions the duties of which are to administer, supervise, or perform quasi-legal work involved in developing, examining, adjusting, reconsidering, or authorizing the settlement of claims filed by veterans, their dependents and beneficiaries, in regard to disability compensation, disability, pension, death pension, death compensation, National Service Life Insurance and U.S. Government Life Insurance, as well as other Veterans Administration administered benefits.

0998 – Claims Assistance and Examining Series***

This series covers one-grade interval administrative support positions that supervise, lead, or perform support and related work in examining, reviewing, developing, adjusting, reconsidering, or recommending authorization of claims by or against the Federal Government. The work requires knowledge of claims processing procedures and claims requirements. This includes the following:

- examine claims due to loss and damage by or against the Government;
- settle claims for the payment of monetary allowances or gratuities based upon dependency on an active or deceased former military service member;
- develop, examine, adjust, reconsider, and/or authorize settlement of claims against the Government; settle claims involving assets of a deceased or incompetent person that are in the possession of a Government agency; and
- examine and develop claims cases for adjudication including determining and verifying entitlement to benefits, verifying post-entitlement actions regarding beneficiaries, and answering inquiries about benefits or procedures for filing claims.

0999 – Legal Occupations Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

1000 – INFORMATION AND ARTS GROUP

This group includes positions that involve professional, artistic, technical, or clerical work in: (1) the communication of information and ideas through verbal, visual, or pictorial means; (2) the collection, custody, presentation, display, and interpretation of art works, cultural objects, and other artifacts; or (3) a branch of fine or applied arts such as industrial design, interior design, or musical composition. Positions in this group require writing, editing, and language ability; artistic skill and ability; knowledge of foreign languages; the ability to evaluate and interpret informational and cultural materials; or the practical application of technical or esthetic principles combined with manual skill and dexterity; or related clerical skills.

Series in this group are:

1001 – General Arts and Information Series

This series covers all positions the duties of which are to administer, supervise, or perform: (1) any combination of work characteristic of two or more series in this group where: (a) no one type of work is series controlling; (b) the paramount qualification requirements are not characteristic of another series in the group; and (c) the combination of work is not specifically provided for in another series, or (2) other work typical of this group for which no other series has been established.

1008 – [Interior Design Series](#)**

This series covers positions the duties of which are to perform, supervise, or manage work related to the design of interior environments in order to promote employee productivity, health, and welfare, and/or the health and welfare of the public. Typical duties include investigating, identifying, and documenting client needs; analyzing needs, proposing options and, working with the client, developing specific solutions; developing design documents, including contract working drawings and specifications; and, as appropriate, managing design projects performed in-house or by contract. The work requires applying knowledge from a variety of such fields as: (1) interior construction (building systems and components, building codes, equipment, materials, and furnishings, working drawings and specification, codes and standards); (2) contracting (cost estimates, bid proposals, negotiations, contract awards, site visits during construction, pre- and post-occupancy evaluations); (3) facility operation (maintenance requirements, traffic patterns, security and fire protection); (4) aesthetics (sense of scale, proportion, and form; color, texture, and finishes; style and visual imagery); (5) psychology (privacy and enclosure; effects of environmental components (color, texture, space, etc.) on mood, alertness, etc.); and, as appropriate, (6) management (design project and resource coordination).

1010 – [Exhibits Specialist Series](#)**

This series covers positions that supervise or perform work involved in planning, constructing, installing, and operating exhibits, the preparation of gallery space for exhibits, the preservation of historic buildings, or the restoration or preparation of items to be exhibited. The work requires a combination of artistic abilities, technical knowledge and skills, and ability to understand the subject matter concepts that assigned exhibits projects are intended to convey.

1015 – [Museum Curator Series](#)*

This series covers all classes of positions the primary duties of which are to administer, supervise, or perform professional work related to research, collections and exhibits in Federal museums, when such work is not classifiable in other professional, scientific, or historical series.

1016 – [Museum Specialist and Technician Series](#)*

This series covers all classes of positions the duties of which include technical and specialized work in connection with the operation of public museums or the management of museum collections.

1020 – [Illustrating Series](#)**

This series covers positions that supervise or perform work involved in laying out or executing illustrations in black and white or in color, and with retouching photographs. The work requires artistic ability, the skill to draw freehand or with drawing instruments, and the ability to use art media such as pen-and-ink, pencils, tempera, acrylics, oils, wash, watercolor, pastels, air brush, or computer-generated graphics. It also requires knowledge of the subject matter being depicted sufficient to create accurate visual representations. Knowledge of basic art principles such as color, line, form, and space is required to produce appropriately composed illustrations.

1021 – [Office Drafting Series](#)*

This series covers positions involving the supervision or performance of drafting work for charts, diagrams, floor plans, office forms, and other types of graphic presentation of statistical, administrative, or related data. Positions in this series require skill in the application of drafting techniques, ability to read statistical tables and make arithmetical computations, and knowledge of the various types of graphic presentation that are appropriate for portrayal of statistical, administrative, and related data.

1035 – [Public Affairs Series](#)*

This series covers positions responsible for administering, supervising, or performing work involved in establishing and maintaining mutual communication between Federal agencies and the general public and various other pertinent publics including internal or external, foreign or domestic audiences. Positions in this series advise agency management on policy formulation and the potential public reaction to proposed policy, and identify and carry out the public communication requirements inherent in disseminating policy decisions. The work involves identifying communication needs and developing informational materials that inform appropriate publics of the agency's policies, programs, services and activities, and plan, execute, and evaluate the effectiveness of information and communication programs in furthering agency goals. Work in the series requires skills in written and oral communication, analysis, and interpersonal relations.

1040 – [Language Specialist Series](#)*

This series covers positions the primary duties of which are to administer, supervise, or perform work in rendering from a foreign language into English or from English into a foreign language the spoken or written word where the ultimate objective is accurate translations and/or interpretations.

1046 – [Language Clerical Series](#)**

This series covers positions the duties of which are to supervise or perform translating and/or interpreting work from and into English where the level of language knowledge and skills required is sufficient only for mutual understanding of basic concepts, phrases, and words, or where the level is limited in breadth because of the routine, repetitive nature of the interpreting and translating assignments, and/or clerical duties are performed in conjunction with such translating or interpreting.

1051 – Music Specialist Series

This series covers positions that require a knowledge of one or more of the music arts such as vocal or instrumental music; composition, theory, and harmony; arranging and orchestration; choral or instrumental conducting; classical or modern dance styles including choreography and notation; or musicology. Music specialists: (1) plan, supervise, administer, or carry out educational, recreational, cultural, or other programs in music such as creative music clinics or workshops, or electronic music experiments; (2) produce, stage, direct, or conduct musical productions, concerts, or recitals; (3) instruct or serve as a specialist in conducting; composing; arranging; interpreting classical, modern, ethnic or cultural dance forms; choreography; musicology; or choral or instrumental music; or (4) perform other functions requiring knowledge or skill in music.

1054 – Theater Specialist Series

This series covers positions that require a knowledge of the techniques of producing, staging, rehearsing, or performing in theatrical productions; of technical production; or of theatrical history and literature. Theater specialists: (1) plan, supervise, administer, or carry out educational, recreational, cultural, or other programs in theater, such as children's theater or creative dramatics; (2) produce, stage, or direct theatrical productions; (3) instruct or serve as a specialist in direction; technical production; dance production; performance techniques; playwriting; play or music theater production; or theater administration, management or promotion; or (4) perform other functions requiring knowledge and skill in the theater arts.

1056 – Art Specialist Series

This series covers positions that require knowledge of the theories and techniques of one or more art forms. Art specialists: (1) plan, supervise, administer, or carry out educational, recreational, cultural, or other programs in art, (2) demonstrate the techniques and instruct in one or more of the arts, or (3) perform other functions requiring knowledge and skill in one or more art forms.

1060 – [Photography Series](#)*

This series covers positions that involve supervising or performing work in operating still, television (video), or motion picture cameras, and in processing photographic film and negatives. The work requires, in addition to a knowledge of the equipment, techniques, and processes of photography; (1) working knowledge of the subject matter to be photographed; and/or (2) artistic ability in selecting, arranging, and lighting subjects or in processing work.

1071 – [Audiovisual Production Series](#)*

This series covers positions that involve supervising or performing work in the production of videotaped and live television programs; live and prerecorded radio broadcasts; motion picture films; broadcast type closed circuit teleconferences; and other similar productions, such as slide shows with sound accompaniments. The work requires the ability to plan, organize, and direct the work of writers, editors, actors, narrators, musicians, set designers, audio and lighting technicians, camera operators, and other associated technical personnel to produce, select, and arrange the actions, sounds, and visual effects required for the finished production.

1082 – [Writing and Editing Series](#)**

This series covers positions that involve writing and editing materials, such as reports, regulations, articles, newsletters, magazines, news releases, training materials, brochures, interpretive handbooks, pamphlets, guidebooks, scholarly works, reference works, speeches, or scripts. The work requires the acquisition of information on a variety of subjects in the course of completing assignments. The work requires the development, analysis, and selection of appropriate information and presentation of the information in a form and at a level suitable for the intended audience.

1083 – [Technical Writing and Editing Series](#)**

This series covers positions that involve writing or editing technical materials, such as reports of research findings; scientific or technical articles, news releases, and periodicals; regulations in technical areas; technical manuals, specifications, brochures, and pamphlets; or speeches or scripts on scientific or technical subjects. Technical writers and technical editors draw on a substantial knowledge of a particular subject-matter area, such as the natural or social sciences, engineering, law, or other fields. The work involves the development of information and analysis to select and present information on the specialized subject in a form and at a level suitable for the intended audience.

1084 – [Visual Information Series](#)**

This series covers positions that supervise or perform work involved in communicating information through visual means. Work in this series includes the design and display of such visual materials as photographs, illustrations, diagrams, graphs, objects, models, slides, and charts used in books, magazines, pamphlets, exhibits, live or video recorded speeches or lectures, and other means of communicating. The work requires knowledge of and ability to apply the principles of visual design; knowledge of the technical characteristics associated with various methods of visual display; and the ability to present subject matter information in a visual form that will convey the intended message to, or have the desired effect on, the intended audience.

1087 – [Editorial Assistance Series](#)*

This series covers positions that involve editorial support work in preparing manuscripts for publication and verifying factual information in them. Such support work includes editing manuscripts for basic grammar and clarity of expression as well as marking copy for format. These positions require skill in using reference works to verify information and knowledge of grammar, punctuation, spelling, and good English usage.

1099 – Information and Arts Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

1100 – BUSINESS AND INDUSTRY GROUP

This group includes all classes of positions the duties of which are to advise on, administer, supervise, or perform work pertaining to and requiring a knowledge of business and trade practices, characteristics and use of equipment, products, or property, or industrial production methods and processes, including the conduct of investigations and studies; the collection, analysis, and dissemination of information; the establishment and maintenance of contacts with industry and commerce; the provision of advisory services; the examination and appraisal of merchandise or property; and the administration of regulatory provisions and controls.

Series in this group are:

1101 – General Business and Industry Series

This series covers all classes of positions the duties of which are to administer, supervise, or perform: (1) any combination of work characteristic of two or more series in this group where no one type of work is series controlling and where the combination is not specifically included in another series; or (2) other work properly classified in this group for which no other series has been provided.

1102 – [Contracting Series](#)*

This series includes positions that manage, supervise, perform, or develop policies and procedures for professional work involving the procurement of supplies, services, construction, or research and development using formal advertising or negotiation procedures; the evaluation of contract price proposals; and the administration or termination and close out of contracts. The work requires knowledge of the legislation, regulations, and methods used in contracting; and knowledge of business and industry practices, sources of supply, cost factors, and requirements characteristics.

1103 – [Industrial Property Management Series](#)*

This occupation includes positions which primarily require a knowledge of business and industrial practices, procedures, and systems for the management and control of Government-owned property. These positions involve technical work in the administration of contract provisions relating to control of Government property in the possession of contractors, from acquisition through disposition. Also included are positions that involve providing staff leadership and technical guidance over property administration matters.

1104 – [Property Disposal Series](#)*

This series includes administrative, managerial, and technical work required to redistribute, donate, sell, abandon, destroy, and promote the use of excess and surplus personal property. Employees must know: (a) characteristics, proper identities, and uses of property items; (b) merchandising and marketing methods and techniques; and/or (c) property disposal policies, programs, regulations, and procedures.

1105 – [Purchasing Series](#)*

This series includes positions that involve supervising or performing work to acquire supplies, services, and construction by purchase, rental, or lease through (1) delivery orders and/or (2) small purchase procedures. The work requires knowledge of policies and procedures for delivery orders and small purchases. This work also requires knowledge of commercial supply sources and common business practices related to sales, prices, discounts, units of measurement, deliveries, stocks, and shipments.

1106 – [Procurement Clerical and Technician Series](#)*

This series includes positions that involve performing or supervising clerical and technical work that supports the procurement of supplies, services, and/or construction. Procurement clerks and technicians prepare, control, and review procurement documents and reports; verify or abstract information contained in documents and reports; contact vendors to get status of orders and expedite delivery; maintain various procurement files; resolve a variety of shipment, payment, or other discrepancies; or perform other similar work in support of procurement programs and operations. The work requires a practical knowledge of procurement procedures, operations, regulations, and programs.

1107 – [Property Disposal Clerical and Technician Series](#)*

This series includes positions involved in supervising or performing support work related to the utilization, donation, sale, and other disposition of excess and surplus personal property. It requires knowledge of property disposal operations and programs and the ability to apply regulations, practices, and procedures.

1130 – [Public Utilities Specialist Series](#)

This series covers positions that require application of knowledge concerning the business practices, rate structures, and operating characteristics of public utilities, in carrying out such functions as: (1) analysis of utility rate schedules to determine their reasonableness and applicability; (2) investigation and analysis of the business management organization and financial structure of public utilities in connection with licensing or regulatory actions, including preparation and presentation of testimony before regulatory bodies; (3) purchase or sale by the Government of utility resources and services; and (4) related functions that require the kind of knowledge indicated above. The utilities with which these positions are primarily concerned are telecommunications, electric and gas power, water, steam, and sewage disposal.

1140 – [Trade Specialist Series](#)**

This series includes positions the duties of which are to administer, supervise, or perform promotional, advisory, or analytical functions pertaining to the commercial distribution of goods and services. The work performed concerns, and requires a practical knowledge of, market structure and trends, competitive relationships, retail and wholesale trade practices, distribution channels and costs, business financing and credit practices, trade restrictions and controls, and principles of advertising and consumer motivation.

1144 – [Commissary Management Series](#)*

This series covers positions the incumbents of which manage, supervise the management of, or advise on the operation of commissary stores or departments thereof, or overall commissary operations. These positions require primarily knowledge of commercial retail food merchandising and food store management.

1145 – [Agricultural Program Specialist Series](#)*

This series covers positions involving work in developing, reviewing, administering, and coordinating programs for direct farmer-producer participation in production adjustment, price support, land conservation, and similar programs. The work requires a knowledge of agricultural stabilization, conservation, and related programs; farming customs and practices; crop cultivation; production and marketing methods; and related agricultural activities.

1146 – [Agricultural Marketing Series](#)*

This series includes positions involving management, research, analytical, regulatory, or other specialized work concerned with the marketing of one or more agricultural commodities or products. The work requires a practical knowledge of marketing functions and practices, including, for example, a knowledge of or experience with: the commodity exchanges and markets, agricultural trade, or the practices and methods involved in various agricultural marketing or agribusiness operations, or a knowledge of the requirements of one or more statutory provisions relating to an agricultural marketing program.

1147 – [Agricultural Market Reporting Series](#)*

This series includes all positions primarily concerned with collection, analysis and dissemination of current information on available supplies, movement, demand, prices, marketing trends, and other facts relating to the marketing of agricultural products. This work, in its various aspects, requires: (1) knowledge of the methods and practices characteristic of markets in the assigned commodity area; (2) ability to establish and maintain sound working relationships with the industry; and (3) knowledge of the physical characteristics, production factors, and quality grading or inspection criteria of the assigned group of commodities.

1150 – [Industrial Specialist Series](#)*

This series includes positions that require primarily a practical knowledge of the nature and operations of an industry or industries, and the materials, facilities and methods employed by the industry or industries in producing commodities. These positions involve the administration, supervision or performance of one or more of the following functions: (1) developing and carrying out plans for the expansion, conversion, integration or utilization of industrial production facilities, either to meet mobilization or strategic requirements or to strengthen the industrial economy; (2) furnishing technical information, assistance, and advice concerning facilities, machinery, methods, materials and standards for industrial production (which may include exploration, extraction, refining, manufacturing and processing operations); (3) developing and/or administering provisions or regulations covering such matters as materials allocation, tariffs, export-import control, etc.; (4) conducting surveys of industrial plants to evaluate capacity and potential for production of specific commodities; (5) planning, evaluating, and maintaining technical surveillance over Government production operations, either in contractor plants or in Government-operated plants; or (6) performing related functions which require essentially similar knowledge as the functions listed above.

1152 – [Production Control Series](#)*

This series covers positions involved in the supervision or performance of planning, estimating, scheduling, and expediting the use of labor, machines, and materials in specific manufacturing or remanufacturing operations that employ mechanical or automated production systems and methods in the fabrication, rebuilding, overhaul, refurbishing, or repair of any type of Government-owned, controlled, or operated equipment, systems, facilities, and supplies.

1160 – [Financial Analysis Series](#)*

This series includes all positions the duties of which are to direct or perform analytical and evaluative work requiring a comprehensive knowledge of (1) the theory and principles of finance applicable to the full range of financial operations and transactions involved in the general activities of the various types of business corporate organizations; (2) the financial and management organization, operations, and practices of such corporate organizations; (3) pertinent statutory or regulatory provisions; and (4) related basic economic, accounting, and legal principles.

1163 – [Insurance Examining Series](#)**

This series includes positions the duties of which are to direct, supervise, or perform work involved in insuring persons or property, determining that adequate insurance to protect Government or private interests has been provided, settling claims arising under insurance contracts, or performing other similar insurance examining work when the duties performed are of a technical, nonclerical nature, requiring (1) knowledge of insurance principles, procedures, and/or practices; the commercial insurance market; commercial insurance operations; or similar specialized insurance knowledge, (2) knowledge of pertinent statutory or regulatory provisions; related administrative regulations, and (3) some knowledge of contract law and of other laws related to the particular kind of insurance involved but not legal training equivalent to that represented by graduation from a recognized law school.

1165 – [Loan Specialist Series](#)*

This series includes all positions the duties of which are to direct or perform analytical and evaluative work which requires knowledge of (1) credit risk factors and lending principles involved in loans of specialized types granted, insured, or guaranteed by the Federal Government; (2) financial structures and practices of business organizations concerned with such loans; and (3) pertinent statutory, regulatory, and administrative provisions.

1169 – [Internal Revenue Officer Series](#)*

This series includes positions involved in administering, supervising, or performing work related to collecting delinquent taxes, surveying for unreported taxes, and securing delinquent returns. The work requires application of a knowledge of (1) general or specialized business practices; (2) pertinent tax laws, regulations, procedures, and precedents; (3) judicial processes, laws of evidence, and the interrelationship between Federal and State laws with respect to collection and assessment processes; and (4) investigative techniques and methods.

1170 – [Realty Series](#)*

This series includes positions the primary duties of which are to perform, advise on, plan, or direct one or more of the following functions: (1) acquisition of real property; (2) management of real property in (a) the administration of Federally owned, Indian-owned, leased, or consigned space or property, or (b) preparation for disposal; or (3) disposal of real property. The work requires a knowledge of real estate laws, principles, practices, and markets.

1171 – [Appraising Series](#)*

This series covers positions that involve supervising or performing work in appraising and reviewing the appraisals of real or personal property or property interests. These positions require technical knowledge and skill in the application of the principles, practices, and techniques of appraisal.

1173 – [Housing Management Series](#)*

This series covers positions the duties of which are (1) to manage or to assist in managing one or more family housing projects, billeting facilities, or other accommodations such as transient or permanent individual and family living quarters, dormitory facilities and restricted occupancy buildings including adjacent service facilities and surrounding grounds; and/or (2) to administer, supervise, or perform work involved in the evaluation of housing management programs, the development of administrative procedures, and the provision of technical assistance to onsite housing management. Positions in this occupation require a variety of housing management and administrative knowledge and related practical skills and abilities in such housing activities as: operations and maintenance, procurement of services, cost management and financial planning, assignments and utilization, occupancy changes and periodic inspections, scheduled and special requirement surveys, new construction and improvements, control of furnishings and equipment, master planning, and management-tenant relations. While some positions may involve administrative or indirect supervision of trade or craft work, an intensive practical knowledge of skilled trade and craft work techniques and processes is not required.

1176 – [Building Management Series](#)*

This series covers positions that involve management of buildings and other facilities to provide organizations with appropriate office space and essential building services. Employees in this series typically perform one or more of the following functions: (1) applying business knowledge to directly manage, or assist in managing, the operation of one or more buildings and the surrounding property; (2) directing comprehensive building management programs; or (3) performing staff level work in the study of building management methods and the development of standard building management practices.

1199 – Business and Industry Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

1200 – COPYRIGHT, PATENT, AND TRADEMARK GROUP

This group includes all classes of positions the duties of which are to advise on, administer, supervise, or perform professional scientific, technical, and legal work involved in the cataloging and registration of copyrights, in the classification and issuance of patents, in the registration of trademarks, in the prosecution of applications for patents before the Patent Office, and in the giving of advice to Government officials on patent matters.

Series in this group are:

1202 – Patent Technician Series

This series covers positions that have responsibility for supervising or performing technical work in support of professional evaluation and examination of patent applications, including searching for, selecting, evaluating and presenting pertinent background data and documents. The duties of positions in this series require the application of: (1) an understanding of the basic principles and practices in a narrow field of physical science or engineering; and (2) quasi-legal knowledge of precedents, practices and procedures under patent laws governing the processing of patent applications. They do not require full professional competence equivalent to that represented by completion of a full 4-year accredited college curriculum leading to a bachelor's degree in engineering or one of the physical sciences.

1210 – Copyright Series

This series covers positions that require the exercise of discretion and independent judgment in the application of a broad knowledge of copyright law, precedents, regulations, and practices. The duties include examining, registering, cataloging, disseminating information, and certifying original and renewal copyrights.

1220 – Patent Administration Series

This series covers all classes of positions the duties of which are to advise on, administer, supervise, or perform professional scientific, technical, and legal work involved in the administration of the patent and trademark laws through the issuance of patents for inventions in the various arts and through the registration of trademarks.

1221 – [Patent Adviser Series*](#)

This series includes positions involving professional scientific or engineering work, and, in addition, legal work pertaining to the analysis of inventions and the evaluation of the patentability thereof. This entails preparing and prosecuting applications for patents; preparing and presenting briefs and arguments and prosecuting appeals and interferences before the Patent Office; making infringement investigations, and rendering opinions on the validity of patents, in order to protect the Government's interest in such inventions.

1222 – [Patent Attorney Series*](#)

This series includes positions involved with performing professional legal, scientific, and technical work concerning patents including rendering opinions on validity and infringement of patents, negotiation of patent licenses, settlement of patent claims, negotiation of patent clauses in contracts, providing professional legal advice to contracting officers and other procurement personnel on patent matters, and the preparation and/or presentation of briefs and arguments before the Patent Office or before the Federal Courts. Also included in this series are positions which, in addition to the foregoing, may be involved with performing similar professional legal functions regarding trademark. The work of this series requires training equivalent to that represented by graduation (with a degree in one of the scientific or engineering disciplines) from an accredited college or university, in addition to a degree from a recognized law school and admission to the bar.

1223 – [Patent Classifying Series*](#)

This series includes all professional, scientific, and technical positions which are primarily concerned with developing and/or administering systems for the classification, for patent purposes, of the technological knowledge embodied in United States patents and related material.

1224 – [Patent Examining Series*](#)

This series includes all classes of positions the duties of which are to advise on, administer, supervise, or perform professional, scientific, technological, and legal work involved in the examination and disposition of applications for patents, exclusive of design patents, to determine the grant or denial of patents based on such applications, and in the adjudication of petitions and appeals from decisions on such applications. Such work in its various aspects involves the utilization of the basic and advanced concepts of the natural sciences, the techniques of all branches of engineering and of the industrial arts, and the application of those aspects of procedural and substantive law generally, and of the statutory and case law applied to patents specifically, which are applicable to the patent examining process.

1226 – [Design Patent Examining Series](#)*

This series includes all classes of positions the duties of which are to supervise or perform professional, technical and legal work involved in the granting or denial of applications for design patents. Such work involves the employment of basic concepts of the natural sciences, techniques of the industrial arts, fundamentals of aesthetic and functional design, and the application of statutes and precedent procedures in design patent matters.

1299 – Copyright and Patent Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

1300 – PHYSICAL SCIENCES GROUP

This group includes all classes of positions the duties of which are to advise on, administer, supervise, or perform research or other professional and scientific work, or subordinate technical work, in any of the fields of science concerned with matter, energy, physical space, time, nature of physical measurement, and fundamental structural particles; and the nature of the physical environment.

Series in this group are:

1301 – [General Physical Science Series](#)***

This series includes positions that involve professional work in the physical sciences when there is no other more appropriate series, that is, the positions are not classifiable elsewhere. This series also includes work in a combination of physical science fields, with no one predominant.

1306 – [Health Physics Series](#)***

This series includes positions that require primarily application of professional knowledge and competence in health physics, which is concerned with the protection of persons and their environment from unwarranted exposure to ionizing radiation.

1310 – [Physics Series](#)***

This series includes positions that advise, administer, supervise, or perform research or other professional and scientific work in the investigation and application of the relations between space, time, matter, and energy in the areas of mechanics, sound, optics, heat, electricity, magnetism, radiation, or atomic and nuclear phenomena.

1311 – [Physical Science Technician Series](#)***

This series covers one-grade interval technical positions that supervise, lead, or perform nonprofessional work in the physical sciences that is not specifically included in other technical series in the Physical Sciences Group. Physical science technicians perform technical work in such fields as astronomy, chemistry, geology, physics, geophysics, health physics, metallurgy, and oceanography for which a specific technician series has not been established. Work in this series does not require full professional knowledge equivalent to that represented by completion of a bachelor's degree in a physical science field.

1313 – [Geophysics Series](#)***

This series includes professional scientific positions requiring application of knowledge of the principles and techniques of geophysics and related sciences in the investigation, measurement, analysis, evaluation, and interpretation of geophysical phenomena and artificially applied forces and fields related to the structure, composition, and physical properties of the earth and its atmosphere.

1315 – [Hydrology Series](#)***

This series includes positions that involve professional work in hydrology, the science concerned with the study of water in the hydrologic cycle. The work includes basic and applied research on water and water resources; the collection, measurement, analysis, and interpretation of information on water resources; the forecast of water supply and water flows; and the development of new, improved or more economical methods, techniques, and instruments.

1316 – [Hydrologic Technician Series](#)***

This series covers one-grade interval technical positions that supervise, lead, or perform nonprofessional work that requires practical knowledge of the methods, procedures, and instrumentation used in hydrologic studies. Hydrologic technicians gather information on the quantity, quality, availability, movement, and distribution of ground water and surface water. They also evaluate water samples and data, prepare reports, and carry out related duties that support professional work in hydrology. Work in this series does not require full professional knowledge equivalent to that represented by completion of a bachelor's degree in hydrology.

1320 – [Chemistry Series](#)***

This series includes all positions involving work that requires full professional education and training in the field of chemistry. This work includes the investigation, analysis, and interpretation of the composition, molecular structure, and properties of substances, the transformations which they undergo, and the amounts of matter and energy included in these transformations. This work includes the investigation, analysis, and interpretation of the composition, physical and chemical properties, molecular structure and chemical reactions of substances; the prediction of transformation they undergo; and the amount of matter and energy included in these transformations.

1321 – [Metallurgy Series](#)***

This series includes positions that require primarily professional education and training in the field of metallurgy, including ability to apply the relevant principles of chemistry, physics, mathematics, and engineering to the study of metals. Metallurgy is the art and science of extracting metals from their ores, refining them, alloying them and preparing them for use, and studying their properties and behavior as affected by the composition, treatment in manufacture, and conditions of use.

1330 – [Astronomy and Space Science Series](#)***

This series includes professional positions requiring primarily application of the principles and techniques of astronomy and physics in the investigation and interpretation of the physical properties, composition, evolution, position, distance, and motion of extraterrestrial bodies and particles in space.

1340 – [Meteorology Series](#)***

This series includes positions that involve professional work in meteorology, the science concerned with the earth's atmospheric envelope and its processes. The work includes basic and applied research into the conditions and phenomena of the atmosphere; the collection, analysis, evaluation, and interpretation of meteorological data to predict weather and determine climatological conditions for specific geographical areas; the development of new or the improvement of existing meteorological theory; and the development or improvement of meteorological methods, techniques, and instruments. Positions in this occupation require full professional knowledge and application of meteorological methods, techniques, and theory.

1341 – [Meteorological Technician Series](#)***

This series covers one-grade interval technical positions that supervise, lead, or perform nonprofessional work in weather forecasting, observation, documentation, research, or other areas of meteorology. Meteorological technicians observe and analyze weather elements or predict the effects of weather in the atmosphere and on the earth's surface. This requires practical knowledge of meteorological equipment, principles, and methods, as well as skill in collecting data, making observations, forecasting weather, and verifying data. Work in this series does not require full professional knowledge equivalent to that represented by completion of a bachelor's degree in meteorology.

1350 – [Geology Series](#)***

This series includes professional scientific positions applying a knowledge of the principles and theories of geology and related sciences in the collection, measurement, analysis, evaluation, and interpretation of geologic information concerning the structure, composition, and history of the earth. This includes the performance of basic research to establish fundamental principles and hypotheses to develop a fuller knowledge and understanding of geology, and the application of these principles and knowledge to a variety of scientific, engineering, and economic problems.

1360 – [Oceanography Series](#)***

This series includes professional scientific positions engaged in the collection, measurement, analysis, evaluation and interpretation of natural and physical ocean phenomena, such as currents, circulations, waves, beach and near-shore processes, chemical structure and processes, physical and submarine features, depth, floor configuration, organic and inorganic sediments, sound and light transmission, color manifestations, heat exchange, and similar phenomena (e.g., biota, weather, geological structure, etc.). Oceanographers plan, organize, conduct, and administer seagoing and land-based study and research of ocean phenomena for the purpose of interpreting, predicting, utilizing and controlling ocean forces and events. This work requires a fundamental background in chemistry, physics, and mathematics and appropriate knowledge in the field of oceanography.

1361 – [Navigational Information Series](#)*

This series covers all classes of positions involving the acquisition, collection, evaluation, selection, and preparation of vital aeronautical or marine information for dissemination in official publications concerning safe navigation and related operations, requiring the technical and practical knowledge of air or marine navigation and operations.

1370 – [Cartography Series](#)***

This series includes positions requiring the application of professional knowledge and skills in mapping and related sciences, and relevant mathematics and statistics to plan, design, research, develop, construct, evaluate and modify mapping and charting systems, products, and technology.

1371 – [Cartographic Technician Series](#)***

This series covers one-grade interval technical positions that supervise, lead, or perform nonprofessional work that requires a practical knowledge of the processes, practices, methods, and techniques involved in constructing new or revised maps, charts, and related cartographic products. Cartographic technicians supervise or perform precompilation tasks such as reviewing source materials, extending basic geodetic control networks, and providing input for plotting map projections and collars. In addition, they perform drafting, digitizing, integrating, and editing/reviewing in connection with cartographic products, and may carry out stereoscopic photogrammetric and/or monoscopic compilation. Work within this series does not require full professional knowledge equivalent to that represented by completion of a bachelor's degree in cartography or a related science.

1372 – [Geodesy Series](#)***

This series includes professional positions requiring primarily application of the principles and techniques of geodesy. The work includes determining the size and shape of the earth and its gravitational field, measuring the intensity and direction of the force of gravity, and determining the horizontal and vertical positions of points on the earth and in space, where consideration of the curvature of the earth is required.

1373 – [Land Surveying Series](#)***

This series includes positions that involve professional work in land surveying, which is concerned with establishing, investigating, and reestablishing land and property boundaries, and with preparing plats and legal descriptions for tracts of land. The work requires application of professional knowledge of the concepts, principles and techniques of surveying, including underlying mathematics and physical science, in combination with a practical knowledge of land ownership laws.

1374 – [Geodetic Technician Series](#)***

This series covers one-grade interval technical positions that supervise, lead, or perform nonprofessional work that involves analyzing, evaluating, processing, computing, and selecting geodetic survey data. These positions require a practical knowledge of the principles and techniques of geodesy particularly as they relate to the identity, reliability, and usefulness of geodetic control data. Work in this series does not require professional knowledge equivalent to that represented by completion of a bachelor's degree in geodesy.

1380 – [Forest Products Technology Series](#)***

This series includes professional positions concerned with the development, improvement, and utilization of wood or wood products, including the study of preservation and treatment methods, the processing and production of wood products, the properties and structure of wood, and the production of lumber.

1382 – [Food Technology Series](#)***

This series includes positions that involve professional work concerning the application of science and technology to food product research, development, improvement, evaluation, production, processing, preservation, and packaging. The work requires knowledge of the biological, physical, and engineering sciences that make possible safe and wholesome food products; of food industry facilities, methods, processes, equipment capabilities and limitations; and of relevant laws, regulations, and agency programs.

1384 – [Textile Technology Series](#)***

This series includes classes of professional positions involving scientific and technological work with textile or fibers, including investigation, development, production, processing, evaluation, and application.

1386 – [Photographic Technology Series](#)***

This series includes professional positions requiring interdisciplinary knowledge and skills in those scientific and engineering fields that comprise photographic technology. This includes planning, research, design, development, modification, instrumentation, testing, and evaluation of photographic equipment and techniques.

1397 – Document Analysis Series

This series covers all classes of positions the duties of which are to direct, administer, supervise, advise on, or perform technical work in examining and identifying questioned documents. Examinations are conducted in order to determine the genuineness or spuriousness of a document or any of its parts; decipher or restore eradicated or obliterated writings and markings; detect alterations, additions, interlineations, or other tampering with the original document; determine authorship of a signature or other writing; determine the validity of a date or the alleged age of a document or a particular entry; identify the particular machine used to produce a document; or identify the source of a document. The work requires: (1) knowledge of the properties, characteristics, and techniques of analysis of handwriting, typewriting, printing, and duplicating, and of inks, papers, and other writing, printing, and recording instruments and materials; (2) knowledge and skill in the use of photographic and laboratory equipment and techniques; and (3) the ability to develop evidence and to present it convincingly in written reports or orally.

1399 – Physical Science Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

1400 – LIBRARY AND ARCHIVES GROUP

This group includes all classes of positions the duties of which are to advise on, administer, supervise, or perform professional and scientific work or subordinate technical work in the various phases of library and archival science.

Series in this group are:

1410 – [Librarian Series](#)*

This series includes positions that involve supervision or performance of work that requires primarily a full professional knowledge of the theories, objectives, principles, and techniques of librarianship, to select, organize, preserve, access, and disseminate information. This includes determining the most cost-effective way to provide information that will best meet user needs. Typical functions in librarianship are collection development, acquisition, cataloging and classification, reference, circulation, computer system and data base management, and preservation. Some positions also require knowledge of one or more subject-matter specializations or foreign languages.

1411 – [Library Technician Series](#)*

This series includes all positions that primarily require a practical knowledge of the methods and techniques of library or related information work in acquiring, organizing, preserving, accessing, and/or disseminating information. Library technicians provide technical support by performing a wide variety of tasks providing direct services to the public and indirect technical services such as materials acquisition, copy cataloging, support of automated systems, or other similar work in support of library or related information programs and operations. The work requires a practical knowledge of library or related information services, tools, and methods and procedures.

1412 – [Technical Information Services Series](#)*

This series includes positions that involve supervision or performance of work in developing, coordinating, processing, and transmitting specialized information. The work requires (a) a broad knowledge of one or more scientific, engineering, technical, or other disciplines or fields of interest sufficient to understand the significance and relationships of the concepts and ideas contained in the information, and (b) a practical knowledge of one or more techniques for organizing, accessing, or disseminating information. Common functions in the occupation are indexing; developing and maintaining thesauri; preparing bibliographies, digests, and reports; searching subject-oriented literature and databases, and cataloging highly specialized materials. Some positions also require proficiency in one or more foreign languages.

1420 – [Archivist Series](#)*

This series includes positions which involve professional archival work in appraising, accessioning, arranging, describing, preserving, publishing or providing reference service from public records and historic documents. This work requires a professional knowledge of archival principles and techniques, professional knowledge of history, and a thorough understanding of the needs, methods and techniques of scholarly research.

1421 – [Archives Technician Series](#)*

This series includes positions which involve nonprofessional and technical work in accessioning, arranging, describing, preserving, using, and disposing of archives, non-current records, and related material kept in record and manuscript depositories. This work requires the application of a practical or technical knowledge of archival methods, procedures, and techniques, and in some assignments a knowledge of the administrative history of specific Federal organizations, past or present. The work does not require full professional preparation in archival science, or the application of a full professional knowledge of the history of the United States.

1499 – Library and Archives Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

1500 – MATHEMATICAL SCIENCES GROUP

This group includes all classes of positions the duties of which are to advise on, administer, supervise, or perform research or other professional and scientific work or related clerical work in basic mathematical principles, methods, procedures, or relationships, including the development and application of mathematical methods for the investigation and solution of problems; the development and application of statistical theory in the selection, collection, classification, adjustment, analysis, and interpretation of data; the development and application of mathematical, statistical, and financial principles to programs or problems involving life and property risks; and any other professional and scientific or related clerical work requiring primarily and mainly the understanding and use of mathematical theories, methods, and operations.

Series in this group are:

1501 – [General Mathematics and Statistics Series](#)***

This series covers positions that manage, supervise, lead, or perform scientific work of a mathematical, statistical, or actuarial nature. This series is applicable when the work of the position:

- is covered by two or more professional series in the Mathematical Sciences Group, 1500, and no one professional series predominates; or
- is not covered by any one professional series in the Mathematical Sciences Group, but is related closely to work in the Mathematical Sciences Group, 1500.

1510 – [Actuarial Science Series](#)***

This series covers positions that manage, supervise, lead, or perform scientific work in the field of actuarial science. Actuarial science involves professional knowledge of the disciplines of mathematics, statistics, business, finance, economics, and insurance. The work requires applying this knowledge to programs or problems related to the financial risks posed by life, health, retirement/pension, and property/casualty entities and contingencies.

1515 – [Operations Research Series](#)***

This series covers positions that manage, supervise, lead, or perform scientific work that involves designing, developing, and adapting mathematical, statistical, econometric, and other scientific methods and techniques. The work also involves analyzing management problems and providing advice and insight about the probable effects of alternative solutions to these problems. The primary requirement of the work is competence in the rigorous methods of scientific inquiry and analysis.

1520 – [Mathematics Series](#)***

This series covers positions that manage, supervise, lead, or perform scientific work that involves:

- conducting research on basic mathematical principles, methods, procedures, techniques, or relationships; or
- developing mathematical methods to solve a variety of scientific, engineering, economic, and/or military problems where precise specification of the relationships, rigor and economy of mathematical operations, and logical deduction are the controlling considerations.

1521 – [Mathematics Technician Series](#)*

This series includes all classes of positions the duties of which are to supervise or perform work in the reduction and computation of quantitative data where such work requires the use of mathematical techniques in connection with particular engineering and scientific activities, but does not require professional knowledge of the mathematical theories, assumptions, or principles upon which the techniques are based.

1529 – [Mathematical Statistics Series](#)***

This series covers positions that manage, supervise, lead, or perform:

- scientific work that involves designing, developing, and adapting mathematical methods and techniques to statistical processes; or
- research that relates to the basic theories and science of statistics.

1530 – [Statistics Series](#)***

This series covers positions that manage, supervise, lead, or perform scientific work or provide professional consultation in applying statistical theories, techniques, and methods to gather, analyze, interpret, and/or report quantified information.

1531 – [Statistical Assistant Series](#)*

This series includes positions which require primarily the application of knowledge of statistical methods, procedures, and techniques, to the collection, processing, compilation, computation, analysis, editing, and presentation of statistical data. The work does not require the application of professional knowledge of statistics or other disciplines.

1540 – [Cryptography Series](#)

This series covers all classes of positions the duties of which are to advise on, administer, supervise, or perform research or other professional and scientific work in the construction and solution of codes and ciphers, or in the design, construction, inspection, testing, operation, and maintenance of new and improved cryptographic code and cipher equipment and methods.

1541 – [Cryptanalysis Series](#)

This series covers all classes of positions the duties of which are to supervise or perform subordinate technical work in the solution or analysis of secret communication codes and ciphers.

1550 – [Computer Science Series](#)**

This series includes professional positions which primarily involve the application of, or research into, computer science methods and techniques to store, manipulate, transform or present information by means of computer systems. The primary requirements of the work are (a) professional competence in applying the theoretical foundations of computer science, including computer system architecture and system software organization, the representation and transformation of information structures, and the theoretical models for such representations and transformations; (b) specialized knowledge of the design characteristics, limitations, and potential applications of systems having the ability to transform information, and of broad areas of applications of computing which have common structures, processes, and techniques; and (c) knowledge of relevant mathematical and statistical sciences.

1599 – Mathematics and Statistics Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

1600 – EQUIPMENT, FACILITIES, AND SERVICES GROUP

This job group includes positions the duties of which are to advise on, manage, or provide instructions and information concerning the operation, maintenance, and use of equipment, shops, buildings, laundries, printing plants, power plants, cemeteries, or other Government facilities, or other work involving services provided predominantly by persons in trades, crafts, or manual labor operations. Positions in this group require technical or managerial knowledge and ability, plus a practical knowledge of trades, crafts, or manual labor operations.

Series in this group are:

1601 – [Equipment, Facilities, and Services Series](#)***

This series covers two-grade interval positions that manage, supervise, lead, or perform administrative work that involves:

- a combination of work characteristic of two or more series in the Equipment, Facilities, and Services Group where no one type of work is series controlling; or
- other two-grade interval work classified in this group for which no other series has been established.

1603 – [Equipment, Facilities, and Services Assistance Series](#)**

This series covers one-grade interval administrative support positions that supervise, lead, or perform assistance work in support of two-grade interval positions in the Equipment, Facilities, and Services Group. Work in this series includes a wide range of support assignments such as:

- managing data and adjusting work orders;
- coding, reviewing, and validating labor and refund/reimbursement work orders;
- conducting liaison with shop supervisors;
- projecting work schedules and recurring work plans;
- serving as customer service point of contact;
- dispatching service calls and do-it-now emergency response teams;
- scheduling short- and long-range maintenance, repair, and minor construction requirements; and
- coordinating on contract repairs.

1630 – [Cemetery Administration Services Series](#)***

This series covers two-grade interval positions that manage, supervise, lead, or perform administrative work that involves the operation or maintenance of one or more Federal cemeteries. The work requires broad administrative knowledge of the operation and maintenance requirements of cemeteries.

1640 – [Facility Operations Services Series](#)***

This series covers two-grade interval positions that supervise, lead, or perform administrative work that involves operating and maintaining buildings, grounds, and other facilities such as posts, bases, shipyards, depots, medical or health care facilities, power plants, navigation locks, parks, forests, and roadways. The work requires administrative knowledge and skills and broad technical knowledge of the operating capabilities and maintenance requirements of various kinds of facilities, physical plants, and equipment. This series typically involves coordinating and directing work performed by a variety of trades and labor employees and requires broad knowledge of such work; however, this knowledge is not a paramount qualification requirement.

1654 – [Printing Services Series](#)***

This series covers two-grade interval positions that manage, supervise, lead, or perform administrative work that involves operating and maintaining a printing program when the work requires knowledge and skill in printing, printing processes, reprographics, printing procurement, and applying relevant laws, regulations, methods, and techniques.

1658 – [Laundry Operations Services Series](#)***

This series covers two-grade interval positions that supervise, lead, or perform administrative work that involves operating a laundry and/or dry cleaning facility when the duties require practical knowledge of laundry and dry cleaning equipment and processing operations.

1667 – [Food Services Series](#)***

This series covers two-grade interval positions that supervise, lead, or perform administrative work that involves operating food services of Federal Government institutions including storeroom, kitchen, dining room, and meat and bakery operations. The work requires a practical knowledge of menu planning and food service operations.

1670 – [Equipment Services Series](#)***

This series covers two-grade interval positions that supervise, lead, or perform administrative work that involves collecting, analyzing, interpreting, and developing specialized information about equipment. Work also involves providing advisory services to those who design, test, produce, procure, supply, operate, repair, or dispose of equipment. Work may also involve developing or revising equipment maintenance programs. The work requires applying an intensive and practical knowledge of the characteristics, properties, and uses of equipment. Knowledge is of the type gained from technical training, education, and experience in functions such as repairing, overhauling, maintaining, constructing, or inspecting equipment.

1699 – [Equipment, Facilities, and Services Student Trainee Series](#)

See the series definition for the General Student Trainee Series, 0099.

1700 – EDUCATION GROUP

This group includes positions that involve administering, managing, supervising, performing, or supporting education or training work when the paramount requirement of the position is knowledge of, or skill in, education, training, or instruction processes.

Series in this group are:

1701 – [General Education and Training Series](#)**

This series includes positions that primarily involve professional work in the field of education and training when the work is not more appropriately covered by another professional series in this or any other group. Included are positions where (1) the work has characteristics that may be identified with more than one professional education series with none predominant, (2) the combination of professional knowledge required by the work is not specifically covered by another series, or (3) the work is in a specialized professional field not readily identifiable with other existing series in this or any other group.

1702 – [Education and Training Technician Series](#)**

This series includes positions that involve nonprofessional work of a technical, specialized, or support nature in the field of education and training when the work is properly classified in this group and is not covered by a more appropriate series. The work characteristically requires knowledge of program objectives, policies, procedures, or pertinent regulatory requirements affecting the particular education or training activity. Employees apply a practical understanding or specialized skills and knowledge of the particular education or training activities involved, but the work does not require full professional knowledge of education concepts, principles, techniques, and practices.

1710 – [Education and Vocational Training Series](#)**

This series includes positions that require applying full professional knowledge of the theories, principles, and techniques of education and training to instructional and educational administration work in education programs operated by Federal agencies. Some positions also require specialized knowledge of one or more subjects in which the instruction is given.

1712 – [Training Instruction Series](#)**

This series covers positions concerned with administration, supervision, training program development, evaluation, or instruction in a program of training when the paramount requirement of the work is a combination of practical knowledge of the methods and techniques of instruction and practical knowledge of the subject-matter being taught. Positions in this series do not have either a paramount requirement of professional knowledge and training in the field of education, or mastery of a trade, craft, or laboring occupation.

1715 – [Vocational Rehabilitation Series](#)*

This series covers positions requiring the application of knowledge of training programs and occupational information in relation to vocational rehabilitation problems of the physically or mentally disabled, or of other individuals whose background or lack of job skills impairs their employ ability. The work involves planning training programs for these individuals; placing them in gainful employment; and supervising them while in training and during adjustment to the job. The duties require knowledge of vocational training concepts and practices; of the employment market; of training facilities; and of skill demands and environmental conditions in occupations and in specific jobs in relation to their suitability for the training and employment of the persons served by the rehabilitation program. The work also involves the application of counseling techniques and methodology in motivating these individuals and helping them to adjust successfully to the training or work situation; however, full professional counseling knowledge is not required.

1720 – [Education Program Series](#)*

This series covers professional education positions that involve promoting, coordinating, and improving education policies, programs, standards, activities, and opportunities in accordance with national policies and objectives. Positions in this series primarily involve the performance, supervision, or formulation and implementation of policy concerning education problems and issues. These positions require a professional knowledge of education theories, principles, processes, and practices at early childhood, elementary, secondary, or post secondary levels, or in adult or continuing education. They also require a knowledge of the Federal Government's interrelationships with State and local educational agencies or with public and private postsecondary institutions.

1725 – Public Health Educator Series

This series covers positions involved in administering, supervising, or performing research or other professional work in public health education. Positions are concerned with providing leadership, advice, staff assistance, and consultation on health education programs. This includes analysis of behavioral and other situational factors affecting good health practices of individuals, groups, and communities; the planning of health education programs designed to meet the needs of particular individuals, groups, or communities; the selection of specialized educational methods, the preparation of educational materials, and the carrying out of such education activities that will best serve to stimulate the interest of individuals and groups in scientific discoveries affecting health in the application of health principles to daily living. Public health educators consult with State and local health departments, and with national and local voluntary agencies; organize community groups to study health problems and methods of disease prevention; and assist in coordinating mass health programs and in evaluating and improving health education programs.

1730 – [Education Research Series](#)**

This series includes positions that primarily involve professional education research work. This includes the performance, leadership, management, or supervision of scientific research to solve educational problems or to develop new knowledge bearing on educational processes. The paramount requirements for this work are knowledge of and skill in applying research principles and methods and a broad and thorough knowledge of one or more scientific fields or interdisciplinary areas related to the education research work being performed.

1740 – [Education Services Series](#)**

This series includes professional positions the duties of which are to administer, supervise, promote, conduct, or evaluate programs and activities designed to provide individualized career-related or self-development education plans. The work requires knowledge of education theories, principles, procedures, and practices of secondary, adult, or continuing education. Some positions require skill in counseling students or enrollees to establish educational and occupational objectives.

1750 – [Instructional Systems Series](#)**

This series includes professional positions the duties of which are to administer, supervise, advise on, design, develop, or provide educational or training services in formal education or training programs. The work requires knowledge of learning theory and the principles, methods, practices and techniques of one or more specialties of the instructional systems field. The work may require knowledge of one or more subjects or occupations in which educational or training instruction is provided.

1799 – Education Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

1800 – INVESTIGATION GROUP

This group includes all classes of positions the duties of which are to advise on, administer, supervise, or perform investigation, inspection, or enforcement work primarily concerned with alleged or suspected offenses against the laws of the United States, or such work primarily concerned with determining compliance with laws and regulations.

Series in this group are:

1801 – [General Inspection, Investigation, and Compliance Series](#)**

This series includes positions the primary duties of which are to administer, coordinate, supervise or perform inspection, investigative, analytical, or advisory work to assure understanding of and compliance with Federal laws, regulations, or other mandatory guidelines when such work is not more appropriately classifiable in another series either in the Investigation Group, 1800 or to another occupational group.

1802 – Compliance Inspection and Support Series**

This series includes positions that perform or supervise inspectional or technical support work in assuring compliance with or enforcement of Federal law, regulations, or other mandatory guidelines and that are not classifiable to another, more specific, occupational series. The work requires a knowledge of prescribed procedures, established techniques, directly applicable guidelines, and pertinent characteristics of regulated items or activities.

1810 – General Investigating Series*

This series includes positions that involve planning and conducting investigations covering the character, practices, suitability or qualifications of persons or organizations seeking, claiming, or receiving Federal benefits, permits, or employment when the results of the investigation are used to make or invoke administrative judgments, sanctions, or penalties. These positions require primarily a knowledge of investigative techniques and a knowledge of the laws, rules, regulations and objectives of the employing agency; skill in interviewing, following leads, researching records, and preparing reports; and the ability to elicit information helpful to the investigation from persons in all walks of life.

1811 – Criminal Investigating Series*

This series includes positions that involve planning and conducting investigations relating to alleged or suspected violations of criminal laws. These positions require primarily a knowledge of investigative techniques and a knowledge of the laws of evidence, the rules of criminal procedure, and precedent court decisions concerning admissibility of evidence, constitutional rights, search and seizure and related issues; the ability to recognize, develop and present evidence that reconstructs events, sequences, and time elements, and establishes relationships, responsibilities, legal liabilities, conflicts of interest, in a manner that meets requirements for presentation in various legal hearings and court proceedings; and skill in applying the techniques required in performing such duties as maintaining surveillance, performing undercover work, and advising and assisting the U.S. Attorney in and out of court.

1812 – Game Law Enforcement Series

This series covers all classes of positions the duties of which are to administer, coordinate, supervise, or perform inspectional, investigative, or advisory work to assure public understanding of and compliance with Federal statutes and regulations for the conservation of fish and wildlife resources; in obtaining information on the general condition of such resources; and in the conduct of operations for the abatement of damage to agricultural crops caused by unusual concentrations of wildlife.

1815 – [Air Safety Investigating Series](#)*

Positions included in this series have duties involving the investigation and prevention of accidents and incidents involving United States aircraft anywhere in the world, and in the establishment of programs and procedures to provide for the notification and reporting of accidents. The investigation includes a report of the facts, conditions, and circumstances relating to each accident and a determination of the probable cause of the accident along with recommendations for remedial action designed to prevent similar accidents in the future. Special studies and investigations on matters pertaining to safety in air navigation and the prevention of accidents are conducted to ascertain what will best tend to reduce or eliminate the possibility of, or recurrence of, accidents. These duties and responsibilities require the application of a broad technical knowledge in the field of aviation, and experience or training that provides a knowledge of investigative techniques and/or legal procedures and practices.

1816 – [Immigration Inspection Series](#)*

This series includes inspection or examining work involving the enforcement and administration of laws relating to the right of persons to enter, reside in, or depart from the United States, Puerto Rico, Guam, and the Virgin Islands. Inspection work requires knowledge of laws, regulations, procedures and policies concerning entry of persons to the United States and eligibility for various benefits under the immigration laws; ability to acquire information about citizenship and status through interviewing persons and examining documents; ability to make sound decisions to enter or exclude aliens from the United States and to determine eligibility for benefits under the immigration laws; and sound judgment in detaining or apprehending persons at the point of entry who are violating immigration or other laws.

1822 – [Mine Safety and Health Series](#)*

This series includes positions the paramount duties of which are to perform or supervise work in enforcing, developing, advising on, or interpreting mine safety and health laws, regulations, standards, and practices. Coverage includes positions concerned with underground and surface mining and milling operations associated with coal, and other metal and nonmetal mines. Positions in this series require: (1) practical knowledge of mining and/or milling methods and processes; (2) knowledge of safety and health practices, principles, programs, and hazards applicable to the mining industry; and (3) knowledge of current laws, regulations, and standards for mine safety and health.

1825 – [Aviation Safety Series](#)*

This series includes positions that involve primarily developing, administering, or enforcing regulations and standards concerning civil aviation safety, including (1) the airworthiness of aircraft and aircraft systems; (2) the competence of pilots, mechanics, and other airmen; and (3) safety aspects of aviation facilities, equipment, and procedures. These positions require knowledge and skill in the operation, maintenance, or manufacture of aircraft and aircraft systems.

1831 – Securities Compliance Examining Series

This series covers positions the duties of which are to direct, supervise, advise on, or perform examinations of registered broker-dealers, investment advisers, and investment companies to determine compliance with statutory and regulatory requirements of securities acts. The work requires the exercise of discretion and independent judgment in the application of knowledge of the principles and practices of securities compliance examination and knowledge of the laws and regulations relating to the control and operation of institutions engaged in the trading of securities and the operation of securities markets. The work includes such activities as: (1) analyzing financial reports, books, and records, to determine compliance with accounting and auditing requirements, adequacy and accuracy of net capital, overall financial responsibility, and compliance with recordkeeping and other requirements of the securities acts and rules; (2) examining and evaluating customer and broker accounts to determine the existence of improper activity in the accounts; (3) inspecting, reviewing, and evaluating the efficiency and adequacy of procedures for safeguarding funds and securities, and overall supervisory procedures; (4) conducting conferences and interviews with members of brokerage firms, security exchanges, investors, and members of the general public; (5) evaluating findings, making recommendations on further actions and preparing written reports on the compliance of the firm with statutory and regulatory requirements; and (6) conducting oversight examinations of self-regulatory organizations such as national securities exchanges.

1850 – [Agricultural Commodity Warehouse Examining Series](#)*

This series includes the administration, supervision, or performance of work involved (1) in examining storage facilities licensed or to be licensed under Federal law for storing agricultural commodities; or (2) in examining facilities approved or to be approved under Government contract or agreement.

1854 – [Alcohol, Tobacco and Firearms Inspection Series](#)*

This series includes positions concerned with work involving the qualification and inspection of establishments engaged in the production or use of alcohol or tobacco products; the assurance of full collection of revenue on alcohol and tobacco products; the development and interpretation of regulations applicable to such establishments; and the development, analysis, and improvement of programs, procedures, and techniques for regulating establishments involved in producing and using alcohol and tobacco products. Positions in this series require specialized knowledge of the construction, equipment, and operations of facilities in the alcohol, tobacco, firearms, and related industries together with the laws and regulations that control them, (b) inspections or examining techniques applicable to these industries, and (c) audit methods.

1862 – [Consumer Safety Inspection Series](#)**

This series includes technical positions concerned with planning and conducting inspections, investigation, and related sampling and data collection activities in support of the laws and regulations protecting consumers from foods, drugs therapeutic devices, cosmetics, fabrics, toys, and household products that are impure, unsanitary, unwholesome, ineffective, improperly labeled, or dangerous. These positions require a practical knowledge of the agency's regulations and programs; a practical knowledge of chemical and biological processes and analytical methods; the characteristics of regulated products; pertinent manufacturing, storage, and distribution methods; and techniques of inspection, sampling, and field testing.

1863 – [Food Inspection Series](#)*

This series includes positions that involve the inspection of slaughter, processing, packaging, shipping, and storing of meat and meat products, poultry and poultry products, fish and fish products, meat products derived from equines, and food establishments engaged in these activities in order to determine compliance with law and regulations that establish standards for the protection of the consumer by assuring them that products distributed to them are wholesome, not adulterated, and properly marked, labeled and packaged. Performance of the work in this series requires the knowledge of normal conditions in live and slaughtered meat, poultry, and fish; of standards of wholesomeness and sanitation of meat, poultry and fish products; and of the processing and sanitation practices of the food production industry or industries inspected.

1864 – [Public Health Quarantine Inspection Series](#)*

This series includes all positions the duties of which are to supervise or perform inspections work in the enforcement of public health quarantine and sanitary regulations governing the entrance of persons and things into the United States or its possessions. The work involves (1) the inspection of persons for the possible presence of quarantinable or communicable diseases and (2) the inspection of carriers engaged in foreign transportation and their cargoes and of vehicles, personal effects, and other things for the presence of disease vectors, infestation, or conditions contrary to approved sanitary procedures and practices.

1881 – [Customs and Border Protection Interdiction Series](#)*

This series covers positions that supervise, lead, or perform Customs and Border Protection Interdiction work. The duties primarily involve performing aviation law enforcement operations to detect, interdict, apprehend and prevent terrorists and other persons, weapons and contraband, from illegally entering or attacking the United States. Positions covered by this series have in common dual paramount requirements for knowledge and skills necessary to pilot aircraft and knowledge of the customs and border protection activities that forms the basis for the flying assignments.

1884 – [Customs Patrol Officer Series*](#)

This series includes positions involved in law enforcement work concerned with: (1) detecting and preventing the smuggling into or out of the United States of contraband and controlled substances and materials; (2) detecting and preventing theft, pilferage or diversion of merchandise, cargo, or other materials from areas under Customs jurisdiction or custody; and (3) detecting and apprehending suspected violators of the criminal provisions of the Customs laws of the United States. Enforcement duties are carried out by patrol and surveillance at, around, and between international ports of entry of the United States. Such work requires knowledge and understanding of Customs and related laws, instructions, and precedent decisions; ability to evaluate information; ability to make timely decisions and apply judgment in taking prompt and appropriate actions in all situations and the ability to effectively use basic investigative and law enforcement procedures to enforce the Customs laws and other laws that the Customs Patrol Officer may be called upon to enforce or assist in enforcing.

1889 – [Import Specialist Series*](#)

This series includes positions supervising or performing work that involves primarily the acceptance; tariff classification; appraisal; allowance of specified types of drawback claims; and, in some circumstances, liquidation of formal entries of imported merchandise. The major objectives of the work are to assess customs duties and associated taxes to be paid on imported merchandise, and to assure compliance with related laws regulations. The work requires (1) knowledge of tariff and other import-related laws, regulations, policies, and procedures and of related administrative and judicial rulings; (2) knowledge of the technical or physical characteristics, commercial uses, and trade practices associated with imported merchandise; and (3) judgment in applying these knowledge in order to make decisions on import admissibility, classification, and valuation of merchandise, final settlement of duties and taxes due, and related matters.

1890 – [Customs Inspection Series*](#)

This series includes positions that involve inspection work in the enforcement and administration of laws governing the importation or exportation of merchandise. The work requires knowledge of laws, regulations, policies, and procedures concerning the entry, examination, classification, and release of merchandise; ability to obtain data about the description, characteristics, value, and country of origin of merchandise by questioning people, examining merchandise, and reviewing documents; ability to search baggage, persons, cargo, and carriers for contraband; ability to make sound decisions to admit and to hold or release merchandise; and sound judgment in detaining and apprehending persons at the point of entry who are violating customs or other laws.

1894 – Customs Entry and Liquidating Series*

This series includes all classes of positions the duties of which are to administer, supervise, or perform work involving the examination, acceptance, processing, or issuance of documents required for the entry of imported merchandise into the United States and the initial classification of merchandise covered by the entries; the final determination of the statutory classification of merchandise covered by the entries; the determination of customs duties and applicable internal revenue taxes accruing on such merchandise; the ascertainment of drawback to be paid on exported articles manufactured with the use of duty-paid or tax-paid imported merchandise or substituted domestic merchandise; and the determination of the validity of protests against liquidation decisions on formal entries.

1895 – Customs and Border Protection Series**

This series covers two-grade interval administrative positions that supervise, lead, or perform work that involves detecting and preventing terrorists and instruments of terror from entering the U.S., and enforcing and administering laws relating to the right of persons to enter, reside in, or depart from the United States, Puerto Rico, Guam, and the U.S. Virgin Islands and the importation or exportation of merchandise. Customs and Border Protection Officers:

- interview persons and examine documents to determine citizenship and immigration status;
- make informed decisions regarding the admissibility of aliens into the United States and admitting, holding, or releasing merchandise;
- obtain information about the description, characteristics, value, and country of origin of imported merchandise or agricultural products, by questioning and eliciting information from people;
- search persons, baggage, cargo, and carriers for contraband;
- monitor, examine, and process cargo containers at sea ports to facilitate importing merchandise; and
- exercise sound judgment necessary to apprehend, detain, or arrest persons at the point of entry who are violating Federal immigration, customs, agriculture, or other laws.

1896 – Border Patrol Agent Series*

This series includes positions involved in enforcement work concerned with (1) detecting and preventing the smuggling or illegal entry of aliens into the United States; (2) detecting and apprehending aliens in violation of the conditions under which they were admitted; (3) detecting and apprehending aliens at interior points in the United States who entered illegally; (4) detecting and apprehending aliens falsely claiming United States citizenship or legal status; (5) detecting and apprehending producers, vendors and users of counterfeit, altered and genuine documents used to circumvent the immigration and nationality laws of the United States; and (6) enforcing criminal provisions of the immigration and nationality laws and regulations of the United States. Such work requires knowledge and understanding of the statutes, regulations, instructions and precedent decisions pertaining to the enforcement of the immigration and nationality laws, ability to evaluate information rapidly, make timely decisions and take prompt and appropriate actions, and the ability to use effectively basic investigative and law enforcement procedures to enforce the immigration and nationality laws and other laws that the Border Patrol Agent may be called upon to enforce or assist in enforcing.

1897 – Customs Aid Series

This series covers all classes of positions the duties of which are to supervise or perform work that is incidental or subordinate to entry, liquidating, appraising, examining, marine officer, or other technical customs work and consists of: (1) clerical duties requiring the application of specialized knowledge of pertinent provisions of the Tariff Act, the Navigation Laws, or other similar customs laws; or (2) quasi-technical duties requiring some, but less than full, technical training in one or more kinds of technical customs work (except such duties when performed as training for the full technical level).

1899 – Investigation Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

1900 – QUALITY ASSURANCE, INSPECTION, AND GRADING GROUP

This group includes all classes of positions the duties of which are to advise on, supervise, or perform administrative or technical work primarily concerned with the quality assurance or inspection of material, facilities, and processes; or with the grading of commodities under official standards.

Series in this group are:

1910 – [Quality Assurance Series](#)*

This series includes all positions the duties of which are to perform, administer, or advise on work concerned with assuring the quality of products acquired and used by the Federal Government. The work of this series involves: (1) the development of plans and programs for achieving and maintaining product quality throughout the item's life cycle; (2) monitoring operations to prevent the production of defects and to verify adherence to quality plans and requirements; and (3) analysis and investigation of adverse quality trends or conditions and initiation of corrective action. The duties of these positions require analytical ability combined with knowledge and application of assurance principles and techniques, and knowledge of pertinent product characteristics and the associated manufacturing processes and techniques.

1980 – [Agricultural Commodity Grading Series](#)*

This series includes positions that administer, supervise, or perform work concerned with examining and evaluating agricultural products to determine their official U.S. grade and/or their acceptability in terms of quality or condition in accordance with official standards and related regulations. The work often includes the inspection or monitoring of the conditions under which the product is processed, stored, or transported insofar as these factors affect product quality.

1981 – Agricultural Commodity Aid Series

This series covers all classes of positions the duties of which are to supervise or perform subordinate clerical work such as taking samples, making tests or otherwise assisting in the grading or classing of agricultural commodities in accordance with prescribed standards and regulations. (This series does not include positions the duties of which are to perform subordinate work in one or more branches of agricultural science. Such positions are properly classified in the Biological Technician Series, 0404. Neither does it include positions the duties of which are to perform nonprofessional work in the physical sciences. Such positions are properly classified in the Physical Science Technician Series, 1311.)

1999 – Quality Inspection Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

2000 – SUPPLY GROUP

This group includes positions that involve work concerned with furnishing all types of supplies, equipment, material, property (except real estate), and certain services to components of the Federal Government, industrial, or other concerns under contract to the Government, or receiving supplies from the Federal Government. Included are positions concerned with one or more aspects of supply activities from initial planning, including requirements analysis and determination, through acquisition, cataloging, storage, distribution, utilization to ultimate issue for consumption or disposal. The work requires knowledge of one or more elements or parts of a supply system, and/or supply methods, policies, or procedures.

Series in this group are:

2001 – [General Supply Series](#)**

This series includes positions involving (1) a combination of supply work covered by two or more two-grade interval series in the Supply Group when no other series is appropriate for the paramount knowledge and abilities required for the position; or (2) other analytical or administrative supply work not specifically covered by another series.

2003 – [Supply Program Management Series](#)**

This series includes positions that involve: (1) management, direction, or administration of a supply program that includes a mixture of technical supply functions; or (2) staff managerial, or administrative work primarily concerned with analyzing, developing, evaluating, or promoting improvements in the policies, plans, methods, procedures, systems, or techniques of a supply program.

2005 – [Supply Clerical and Technician Series](#)*

This series includes positions involved in supervising or performing clerical or technical supply support work necessary to ensure the effective operation of ongoing supply activities. It requires knowledge of supply operations and program requirements and the ability to apply established supply policies, day-to-day servicing techniques, regulations, or procedures.

2010 – [Inventory Management Series](#)**

This series includes positions that involve analytical work in managing, regulating, coordinating, or otherwise exercising control over supplies, equipment, or other material. The work includes one or more phases of material management including initial planning, provisioning and requirements determination, acquisition and distribution, accountability, and ultimate issue for consumption, retention, or disposal. The work requires knowledge of acquisition processes, automated records and control systems, material substitution criteria, and storage, issue, and disposal processes.

2030 – [Distribution Facilities and Storage Management Series](#)**

This series includes positions that involve analytical or managerial work concerned with receiving, handling, storing, maintaining while in storage, issuing, or physically controlling items within a storage and distribution system. Positions covered by this series require as their primary qualification, knowledge of the principles, practices, and techniques of managing the physical receipt, custody, care, and distribution of material, including the selection of appropriate storage sites, material handling equipment, and facilities.

2032 – [Packaging Series](#)**

This series includes positions that involve planning, designing, and developing packaging methods and techniques, and directing the use of packages and packaging materials to protect supplies, materials, and equipment between the time of purchase and use. This occupation requires knowledge of packaging and preservation methods, material, regulations, specifications, and guidelines. It also requires knowledge of methods and techniques to prevent environmental and mechanical damage during handling, shipping, and storage.

2050 – [Supply Cataloging Series](#)**

This series includes positions that involve analytical work in the development, maintenance, or revision of supply catalogs, manuals, stock lists, item descriptions, and other documents that identify items of supply. Positions in this series require a knowledge of the physical characteristics of supply items and of systems for cataloging and classifying such supply items to insure proper identification for management purposes.

2091 – [Sales Store Clerical Series](#)*

This series includes all classes of positions the duties of which are to supervise or perform check-out, sales clerk, customer assistance, or other clerical duties that are involved in the retail sale of merchandise or stock items and that require the application of clerical knowledge, procedures, and/or practices that are peculiar to sales store operations.

2099 – Supply Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

2100 – TRANSPORTATION GROUP

This group includes all classes of positions the duties of which are to advise on, administer, supervise, or perform clerical, administrative, or technical work involved in the provision of transportation service to the Government, the regulation of transportation utilities by the Government, or the management of Government-funded transportation programs, including transportation research and development projects.

Series in this group are:

2101 – Transportation Specialist Series

This series covers all administrative positions the duties of which are to advise on, supervise, or perform work that involves two or more specialized transportation functions or other transportation work not specifically included in other series of this group.

2102 – [Transportation Clerk and Assistant Series*](#)

This series includes positions that involve supervising or performing work to arrange transportation for or perform other actions in connection with the movement of freight, passengers, or personal property by Government or commercial means. This series also includes other transportation support work not covered specifically by another one grade interval series in the Transportation Group (e.g., fleet management, safety or regulatory program support, quality control and inspection, carrier performance evaluation, or transportation report analysis and preparation). The work requires a practical knowledge of the regulations and methods governing traffic management or transportation programs.

2110 – [Transportation Industry Analysis Series*](#)

This occupation includes positions that involve analytical, evaluative, advisory, or similar work pertaining to regulation of the transportation industry with regard to operations, economics, equity in industry practices, and protection of the public interest. The work requires a knowledge of transportation industry regulatory controls, of the customs and competitive practices of carriers, and of carrier operations, services, and facilities. It also requires a general knowledge of economics, statistics, law, business management and related subject-matter areas, but does not require full training and professional competence in any of those fields.

2121 – [Railroad Safety Series](#)*

This series includes positions that are involved in developing, administering, or enforcing railroad safety standards and regulations or investigating and preventing railroad accidents. These positions require (1) broad knowledge of railroad operating practices and recordkeeping; (2) practical knowledge of methods used in the installation, maintenance, or manufacture of railroad equipment, signal systems, or track; (3) knowledge of safety practices applicable to the railroad industry and related laws, regulations, and standards; and (4) knowledge of the investigative techniques used in determining the cause of accidents.

2123 – [Motor Carrier Safety Series](#)*

This series includes positions the duties of which are to administer, supervise, or perform work involved in promoting or enforcing compliance with Federal laws, standards, and regulations related to the safe operation of commercial motor vehicles on the public highways. Included are positions concerned with promoting safe operating practices and enforcing compliance by shippers of hazardous materials; motor carrier accident investigation and prevention; developing regulations and standards; and providing technical assistance to the industry and other jurisdictions involved in motor carrier safety. The work requires: (1) comprehensive knowledge of the laws, standards, and regulations governing motor carrier safety; (2) knowledge of the safety principles and practices applicable to the motor carrier industry; (3) practical knowledge of the competitive and operating practices, policies, organization, equipment, facilities, and recordkeeping systems of motor carriers; and (4) knowledge of investigative techniques used in compliance enforcement and accident investigation. This classification standard has been developed for positions in the Department of Transportation. Positions in other agencies may not be placed in this series without the approval of the Office of Personnel Management.

2125 – [Highway Safety Series](#)**

This series includes positions the duties of which primarily involve: (1) development and administration of highway safety regulations, standards and programs to elicit and promote governmental and public support for highway safety; (2) conducting studies or performing other analytical work directed toward identification of current highway safety problems and evaluation of the effectiveness of highway safety programs and methods; or (3) providing State and local governments with technical assistance in planning, developing, monitoring, funding, managing, promoting, or evaluating programs and systems to improve vehicle, passenger, or pedestrian safety and to identify, control, or eliminate the factors that influence highway accidents. All positions in this series require specialized knowledge of highway safety programs and the factors that influence highway safety and the safe performance and operation of motor vehicles. Most positions also require a high degree of analytical ability and a general knowledge of the principles and processes of program management and intergovernmental relations. This series coverage standard has been developed for positions in the Department of Transportation. Positions in other agencies may not be placed in this series without the approval of the Office of Personnel Management.

2130 – [Traffic Management Series](#)*

This series includes positions that involve (1) performing, administering, or supervising technical and analytical work concerned with planning, development, and execution of traffic policies and programs; or (2) directing and managing programs to obtain the economical and efficient transportation of freight, personal property, and/or passengers. Positions in this occupation primarily require a knowledge of Federal traffic management principles and policies; transportation industry operations, practices, and capabilities; special handling or movement requirements associated with freight, passengers, or other transportation operations; and the relationship of traffic management to other agency or organizational programs and functions.

2131 – [Freight Rate Series](#)*

This series includes all classes of positions the duties of which are to administer, supervise, or perform work involved in the procurement of common carrier and other transportation service by rail, motor, air, water, and miscellaneous means, for the domestic and foreign movement of freight. This requires: the study and application of published classification guides, rate tariffs, dockets, agreements, contracts, and related carrier and Federal publications in the classification of freight and the determination of appropriate rates and routes. In addition to positions that determine classification, rates, and/or routes prior to shipment, this series includes positions engaged in the pre-audit or the post-audit of freight bills to determine the propriety of the rates paid or to be paid.

2135 – [Transportation Loss and Damage Claims Examining Series](#)

This series covers all classes of positions the duties of which are to administer, supervise, or perform work consisting of the examination, development, review, or authorization of claims by or against the Government arising from the loss or damage of goods and merchandise while in the custody of carriers for transporting, when this work does not include the determination of transportation rates nor the development of loss and damage prevention measures as these duties are described in the Freight Rate Series, 2131.

2144 – [Cargo Scheduling Series](#)**

This series includes all classes of positions the duties of which are to supervise or perform work in controlling or scheduling the movement of cargo into, out of, or through one or more terminals in the proper amounts and time sequence in relationship to the priority of the cargo, the terminals' ability to accommodate the cargo and/or the carriers' ability to move the cargo. This work requires the technical analysis of the transportation considerations that affect the movement of cargo in the proper relationships to the terminal and carrier capacity. Extensive knowledge of transportation systems and of transportation rules and regulations is required but technical knowledge of freight classification and of common carriers' rates is not required.

2150 – [Transportation Operations Series](#)

This series covers all classes of positions the duties of which are to administer, supervise, or perform work involving the planning, directing, or operating of rail, motor, air, or water transportation systems and service, including positions involving responsibility for operation of both transportation service and terminal facilities.

2151 – [Dispatching Series](#)**

This series includes all classes of positions the duties of which are to supervise or perform work involved in dispatching or scheduling motor vehicles, trains, aircraft, or vessels used for the transportation of passengers, mail, equipment, or supplies. The duties of these positions are primarily of an office or a clerical nature and involve assigning vehicles, keeping records and reports, and providing route and destination information and instructions to the drivers, engineers, or pilots.

2152 – [Air Traffic Control Series](#)*

This series includes positions concerned with: (a) the control of air traffic to insure the safe, orderly and expeditious movement along air routes and at airports when a knowledge of aircraft separation standards and control techniques, and the ability to apply them properly, often under conditions of great stress, are required; (b) the providing of preflight and in-flight assistance to aircraft requiring a knowledge of the information pilots need to conduct safe flights and the ability to present that information clearly and concisely; or (c) the development, coordination, and management of air traffic control programs. Positions in this occupation require an extensive knowledge of the laws, rules, regulations and procedures governing the movement of air traffic.

2154 – [Air Traffic Assistance Series](#)**

This series includes positions that involve the performance of work in support of air traffic control functions. Positions in this series require a knowledge of and skill in applying air traffic control procedures, but do not require knowledge of aircraft separation standards or the ability to provide preflight or in-flight safety or weather briefings.

2161 – [Marine Cargo Series](#)*

This series includes all classes of positions the duties of which are to supervise, administer, monitor, or perform work involved in planning and/or directing the loading and stowage of cargo aboard vessels and the unloading of cargo from vessels. Series coverage is limited to positions concerned with (1) the preparation and review of stowage plans which indicate the location of cargo within assigned space aboard ship and the order in which it is to be loaded and unloaded, (2) the interpretation and implementation of cargo stowage plans during the actual loading, stowage and unloading operations, (3) combined responsibility for both the planning and monitoring of marine cargo loading and stowage operations, or (4) general or administrative duties connected with the supervision or management of marine cargo planning, loading, and stowage.

2181 – [Aircraft Operation Series](#)*

This series includes all positions primarily involved in: (1) piloting or copiloting of aircraft to carry out various programs and functions of Federal agencies; (2) providing ground and flight instruction and in-flight evaluation in the piloting of aircraft; (3) flight testing of developmental and modified aircraft and components; (4) in-flight inspection and evaluation of air navigation facilities and the environmental conditions affecting instrument flight procedures; and (5) performing staff work concerned with planning, analyzing, or administering agency aviation programs, where the work requires primarily the application of pilot knowledge and skills.

2183 – [Air Navigation Series](#)*

This series includes positions responsible for assisting the pilot in aircraft operations by determining, planning, and performing the navigational aspects of the flight. Positions in this series require knowledge of the various methods of air navigation, and skill in using navigational instruments, equipment, and systems in conjunction with flight instruments to direct the movement and positioning of the aircraft to accomplish a specific mission or assignment. Some positions may require knowledge of the use and deployment of fighter aircraft ordnance; skill to conduct preflight checks, recognize malfunctions, and coordinate delivery with the pilot; and knowledge of weapon ballistics and skill to operate related avionics systems for fighter aircraft. Also included are positions responsible for providing ground and flight instruction in air navigation.

2185 – [Aircrew Technician Series](#)*

This series includes all positions the primary duties of which are to perform, instruct, or supervise flight crew work, particularly (1) flight engineering work supporting the operation of heavy multi engine aircraft, (2) controlling and operating aerial refueling systems aboard tanker aircraft, and (3) loading, positioning, and securing cargo in transport aircraft.

2199 – Transportation Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

2200 – INFORMATION TECHNOLOGY GROUP

Series in this group are:

2210 – [Information Technology Management Series](#)***

This series covers two-grade interval administrative positions that manage, supervise, lead, administer, develop, deliver, and support information technology (IT) systems and services. This series covers only those positions for which the paramount requirement is knowledge of IT principles, concepts, and methods; e.g., data storage, software applications, networking. Information technology refers to systems and services used in the automated acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, assurance, or reception of information. Information technology includes computers, network components, peripheral equipment, software, firmware, services, and related resources.

This series covers, but is not limited to, the following specialties:

- Policy and Planning** – Work that involves a wide range of IT management activities that typically extend and apply to an entire organization or major components of an organization. This includes strategic planning, capital planning and investment control, workforce planning, policy and standards development, resource management, knowledge management, architecture and infrastructure planning and management, auditing, and information security management.
- Security** – Work that involves ensuring the confidentiality, integrity, and availability of systems, networks, and data through the planning, analysis, development, implementation, maintenance, and enhancement of information systems security programs, policies, procedures, and tools.
- Systems Analysis** – Work involving applying analytical processes to the planning, design and implementation of new and improved information systems to meet the business requirements of customer organizations.
- Application Software** – Work that involves the design, documentation, development, modification, testing, installation, implementation, and support of new or existing applications software.
- Operating Systems** – Work that involves the planning, installation, configuration, testing, implementation, and management of the systems environment in support of the organization’s IT architecture and business needs.
- Network Services** – Work that involves the planning, analysis, design, development, testing, quality assurance, configuration, installation, implementation, integration, maintenance, and/or management of networked systems used for the transmission of information in voice, data, and/or video formats.
- Data Management** – Work that involves the planning, development, implementation, and administration of systems for the acquisition, storage, and retrieval of data.
- Internet** – Work that involves the technical planning, design, development, testing, implementation, and management of Internet, intranet, and extranet activities, including systems/applications development and technical management of Web sites. This specialty only includes positions requiring the application of technical knowledge of Internet systems, services, and technologies.
- Systems Administration** – Work that involves planning and coordinating the installation, testing, operation, troubleshooting, and maintenance of hardware and software systems.

Customer Support – Work that involves the planning and delivery of customer support services, including installation, configuration, troubleshooting, customer assistance, and/or training, in response to customer requirements.

2299 – Information Technology Student Trainee Series

See the series definition for the General Student Trainee Series, 0099.

Alphabetical Listing of White Collar Occupational Groups and Series

	Code		Code
ACCOUNTING AND BUDGET GROUP	0500	Border Patrol Agent Series*	1896
Accounting Series***	0510	Botany Series***	0430
Accounting Technician Series***	0525	Budget Analysis Series***	0560
Actuarial Science Series***	1510	Budget Clerical and Assistance Series***	0561
Administration and Office Support Student		Building Management Series*	1176
Trainee Series	0399	BUSINESS AND INDUSTRY GROUP	1100
Administrative Officer Series**	0341	Business and Industry Student Trainee Series	1199
Aerospace Engineering Series**	0861		
Agricultural Commodity Aid Series	1981	Cargo Scheduling Series**	2144
Agricultural Commodity Grading Series*	1980	Cartographic Technician Series***	1371
Agricultural Commodity Warehouse		Cartography Series***	1370
Examining Series*	1850	Cash Processing Series***	0530
Agricultural Engineering Series*	0890	Cemetery Administration Services Series***	1630
Agricultural Market Reporting Series*	1147	Ceramic Engineering Series	0892
Agricultural Marketing Series*	1146	Chaplain Series*	0060
Agricultural Program Specialist Series*	1145	Chemical Engineering Series*	0893
Agronomy Series***	0471	Chemistry Series***	1320
Aircraft Operation Series*	2181	Civil Engineering Series*	0810
Aircrew Technician Series*	2185	Civil Rights Analysis Series*	0160
Air Navigation Series*	2183	Civilian Pay Series***	0544
Air Safety Investigating Series*	1815	Claims Assistance and Examining Series***	0998
Air Traffic Assistance Series**	2154	Clerk of Court Series**	0945
Air Traffic Control Series*	2152	Clerk-Stenographer and Reporter Series**	0312
Alcohol, Tobacco and Firearms		Clerk-Typist Series**	0322
Inspection Series*	1854	Closed Microphone Reporting Series**	0319
Animal Health Technician Series**	0704	Clothing Design Series*	0062
Animal Science Series***	0487	Coding Series**	0357
Appraising Series*	1171	Commissary Management Series*	1144
Apprenticeship and Training Series*	0243	Communications Clerical Series**	0394
Archeology Series**	0193	Community Planning Series*	0020
Architecture Series*	0808	Community Planning Technician Series	0021
Archives Technician Series*	1421	Compliance Inspection and Support Series**	1802
Archivist Series*	1420	Computer Clerk and Assistant Series*	0335
Art Specialist Series	1056	Computer Engineering Series**	0854
Astronomy and Space Science Series***	1330	Computer Operation Series*	0332
Audiovisual Production Series*	1071	Computer Science Series**	1550
Auditing Series***	0511	Construction Analyst Series*	0828
Autopsy Assistant Series*	0625	Construction Control Technical Series***	0809
Aviation Safety Series*	1825	Consumer Safety Inspection Series**	1862
		Consumer Safety Series*	0696
Biological Science Student Trainee Series	0499	Contact Representative Series***	0962
Biological Science Technician Series**	0404	Contracting Series*	1102
Biomedical Engineering Series	0858	Copyright and Patent Student Trainee Series	1299
Bond Sales Promotion Series	0011	COPYRIGHT, PATENT, AND TRADEMARK	
		GROUP	1200
		Copyright Series	1210

	Code		Code
Correctional Institution Administration Series**	0006	Environmental Protection Assistant Series	0029
Correctional Officer Series*	0007	Environmental Protection Specialist Series*	0028
Correspondence Clerk Series*	0309	Equal Employment Opportunity Series*	0260
Criminal Investigating Series*	1811	Equal Opportunity Assistance Series*	0361
Cryptanalysis Series	1541	Equal Opportunity Compliance Series*	0360
Cryptography Series	1540	Equipment, Facilities, and Services Assistance	
Customs Aid Series	1897	Series***	1603
Customs and Border Protection		EQUIPMENT, FACILITIES, AND SERVICES	
Interdiction Series**	1881	GROUP	1600
Customs and Border Protection Series**	1895	Equipment, Facilities, and Services Series***	1601
Customs Entry and Liquidating Series*	1894	Equipment, Facilities, and Services Assistance	
Customs Inspection Series*	1890	Series**	1603
Customs Patrol Officer Series*	1884	Equipment, Facilities, and Services Student	
		Trainee Series	1699
Data Transcriber Series*	0356	Equipment Operator Series*	0350
Dental Assistant Series*	0681	Equipment Services Series***	1670
Dental Hygiene Series*	0682	Estate Tax Examining Series	0920
Dental Laboratory Aid and Technician Series*	0683	Exhibits Specialist Series**	1010
Dental Officer Series*	0680		
Design Patent Examining Series*	1226	Facility Operations Services Series***	1640
Diagnostic Radiologic Technologist Series*	0647	Financial Administration and Program Series***	0501
Dietitian and Nutritionist Series*	0630	Financial Analysis Series*	1160
Dispatching Series**	2151	Financial Clerical and Technician Series***	0503
Distribution Facilities and Storage		Financial Management Series*	0505
Management Series**	2030	Financial Management Student Trainee Series	0599
Document Analysis Series	1397	Fingerprint Identification Series*	0072
		Fire Protection and Prevention Series*	0081
Ecology Series***	0408	Fire Protection Engineering Series	0804
Economics Assistant Series	0119	Fish and Wildlife Administration Series***	0480
Economist Series*	0110	Fish Biology Series***	0482
Editorial Assistance Series*	1087	Food Inspection Series*	1863
Education and Training Technician Series**	1702	Food Services Series***	1667
Education and Vocational Training Series**	1710	Food Technology Series***	1382
EDUCATION GROUP	1700	Foreign Affairs Series	0130
Education Program Series*	1720	Foreign Agricultural Affairs Series	0135
Education Research Series**	1730	Foreign Law Specialist Series**	0095
Education Services Series**	1740	Forest Products Technology Series***	1380
Education Student Trainee Series	1799	Forestry Series***	0460
Educational Therapist Series*	0639	Forestry Technician Series**	0462
Electrical Engineering Series*	0850	Freight Rate Series*	2131
Electronics Engineering Series*	0855	Funeral Directing Series	0050
Electronics Technical Series***	0856		
ENGINEERING AND ARCHITECTURE		Game Law Enforcement Series	1812
GROUP**	0800	GENERAL ADMINISTRATIVE, CLERICAL,	
Engineering and Architecture Student		AND OFFICE SERVICES GROUP	0300
Trainee Series	0899	General Anthropology Series	0190
Engineering Technical Series*	0818	General Arts and Information Series	1001
Engineering Technical Series***	0802	General Attorney Series*	0905
Entomology Series***	0414	General Natural Resources Management and Biological	
Environmental Engineering Series*	0819	Sciences Series	0401
Environmental Health Technician Series	0698	General Business and Industry Series	1101
		General Education and Training Series**	1701

	Code		Code
General Engineering Series	0801	Information and Arts Student Trainee Series	1099
General Health Science Series	0601	Information Receptionist Series*	0304
General Inspection, Investigation, and		INFORMATION TECHNOLOGY GROUP	2200
Compliance Series**	1801	Information Technology Management Series***	2210
General Investigating Series*	1810	Information Technology Student	
General Legal and Kindred		Trainee Series***	2299
Administration Series**	0901	Instructional Systems Series**	1750
General Mathematics and Statistics***	1501	Insurance Accounts Series***	0593
General Natural Resources Management and Biological		Insurance Examining Series**	1163
Sciences Series***	0401	Intelligence Aid and Clerk Series	0134
General Physical Science Series***	1301	Intelligence Series**	0132
General Student Trainee Series	0099	Interior Design Series**	1008
General Supply Series**	2001	Internal Revenue Agent Series***	0512
General Telecommunication Series**	0392	Internal Revenue Officer Series*	1169
Genetics Series***	0440	International Cooperation Series*	0136
Geodesy Series***	1372	International Relations Series	0131
Geodetic Technician Series***	1374	Inventory Management Series**	2010
Geography Series*	0150	INVESTIGATION GROUP	1800
Geology Series***	1350	Investigation Student Trainee Series	1899
Geophysics Series***	1313	Irrigation System Operation Series*	0459
Guide Series*	0090		
		Kinesiotherapy Series	0635
Health Aid and Technician Series**	0640		
Health Insurance Administration Series	0107	Labor Management Relations Examining Series*	0244
Health Physics Series***	1306	Land Law Examining Series*	0965
Health System Administration Series*	0670	Landscape Architecture Series*	0807
Health System Specialist Series**	0671	Land Surveying Series***	1373
Hearings and Appeals Series	0930	Language Clerical Series**	1046
Highway Safety Series**	2125	Language Specialist Series*	1040
History Series*	0170	Laundry Operations Services Series***	1658
Horticulture Series***	0437	Law Clerk Series	0904
Hospital Housekeeping Management Series*	0673	LEGAL AND KINDRED GROUP	0900
Housing Management Series*	1173	Legal Assistance Series***	0986
Human Resources Assistance Series***	0203	Legal Instrument Examining Series***	0963
HUMAN RESOURCES		Legal Occupations Student Trainee Series	0999
MANAGEMENT GROUP	0200	Librarian Series*	1410
Human Resources Management Series***	0201	LIBRARY AND ARCHIVES GROUP	1400
Human Resources Management Student		Library and Archives Student Trainee Series	1499
Trainee Series	0299	Library Technician Series*	1411
Hydrologic Technician Series***	1316	Loan Specialist Series*	1165
Hydrology Series***	1315	Logistics Management Series**	0346
Illustrating Series**	1020	Mail and File Series*	0305
Immigration Inspection Series*	1816	Management and Program Analysis Series**	0343
Import Specialist Series*	1889	Management and Program Clerical and	
Industrial Engineering Series*	0896	Assistance Series*	0344
Industrial Engineering Technical Series***	0895	Manpower Development Series*	0142
Industrial Hygiene Series*	0690	Manpower Research and Analysis Series	0140
Industrial Property Management Series*	1103	Manual Arts Therapist Series*	0637
Industrial Specialist Series*	1150	Marine Cargo Series*	2161
INFORMATION AND ARTS GROUP	1000	Marine Survey Technical Series***	0873
		Materials Engineering Series**	0806

	Code		Code
Mathematical Statistics Series***	1529	Optometrist Series	0662
MATHEMATICAL SCIENCES GROUP	1500	Orthotist and Prosthetist Series*	0667
Mathematics and Statistics Student		Outdoor Recreation Planning Series*	0023
Trainee Series	1599		
Mathematics Series***	1520	Packaging Series**	2032
Mathematics Technician Series*	1521	Paralegal Specialist Series*	0950
Mechanical Engineering Series*	0830	Park Ranger Series*	0025
Mediation Series*	0241	Passport and Visa Examining Series*	0967
Medical and Health Student Trainee Series	0699	Patent Administration Series	1220
MEDICAL, HOSPITAL, DENTAL, AND PUBLIC		Patent Adviser Series*	1221
HEALTH GROUP	0600	Patent Attorney Series*	1222
Medical Instrument Technician Series*	0649	Patent Classifying Series*	1223
Medical Officer Series*	0602	Patent Examining Series*	1224
Medical Records Administration Series*	0669	Patent Technician Series	1202
Medical Records Technician Series***	0675	Pathology Technician Series*	0646
Medical Supply Aide and Technician Series*	0622	Pension Law Specialist Series	0958
Medical Support Assistance Series***	0679	Petroleum Engineering Series*	0881
Medical Technical Assistant Series*	0650	Pharmacist Series*	0660
Medical Technician Series*	0645	Pharmacology Series	0405
Medical Technologist Series*	0644	Pharmacy Technician Series*	0661
Messenger Series*	0302	Photographic Technology Series***	1386
Metallurgy Series***	1321	Photography Series*	1060
Meteorological Technician Series***	1341	Physical Science Student Trainee Series	1399
Meteorology Series***	1340	Physical Science Technician Series***	1311
Microbiology Series***	0403	PHYSICAL SCIENCES GROUP	1300
Military Pay Series***	0545	Physical Therapist Series*	0633
Mine Safety and Health Series*	1822	Physician's Assistant Series	0603
Mining Engineering Series*	0880	Physics Series***	1310
Miscellaneous Administration & Program Series**	0301	Physiology Series***	0413
Miscellaneous Clerk and Assistant Series**	0303	Plant Pathology Series***	0434
MISCELLANEOUS OCCUPATIONS GROUP		Plant Physiology Series***	0435
(NOT ELSEWHERE CLASSIFIED)	0000	Plant Protection Technician Series**	0421
Motor Carrier Safety Series*	2123	Podiatrist Series	0668
Museum Curator Series*	1015	Police Series*	0083
Museum Specialist and Technician Series*	1016	Practical Nurse Series*	0620
Music Specialist Series	1051	Printing Services Series***	1654
		Procurement Clerical and Technician Series*	1106
NATURAL RESOURCES MANAGEMENT AND		Production Control Series*	1152
BIOLOGICAL SCIENCES GROUP	0400	Program Management Series	0340
Naval Architecture Series*	0871	Property Disposal Clerical and Technician Series*	1107
Navigational Information Series*	1361	Property Disposal Series*	1104
Nuclear Engineering Series*	0840	Prosthetic Representative Series	0672
Nuclear Materials Courier Series**	0084	Psychology Aid and Technician Series	0181
Nuclear Medicine Technician Series	0642	Psychology Series*	0180
Nurse Series*	0610	Public Affairs Series*	1035
Nursing Assistant Series*	0621	Public Health Educator Series	1725
		Public Health Program Specialist Series*	0685
Occupational Therapist Series*	0631	Public Health Quarantine Inspection Series*	1864
Oceanography Series***	1360	Public Utilities Specialist Series	1130
Office Automation Clerical & Assistance Series**	0326	Purchasing Series	1105
Office Drafting Series*	1021		
Operations Research Series***	1515		

	Code		Code
QUALITY ASSURANCE, INSPECTION, AND		Supply Program Management Series**	2003
GRADING GROUP	1900	Supply Student Trainee Series	2099
Quality Assurance Series*	1910	Support Services Administration Series*	0342
Quality Inspection Student Trainee Series	1999	Survey Technical Series***	0817
Railroad Retirement Claims Examining**	0993	Tax Examining Series***	0592
Railroad Safety Series*	2121	Tax Law Specialist Series	0987
Rangeland Management Series***	0454	Tax Specialist Series***	0526
Range Technician Series**	0455	Technical Information Services Series*	1412
Realty Series*	1170	Technical Writing and Editing Series**	1083
Recreation Aid and Assistant Series**	0189	Telecommunications Processing Series*	0390
Recreation/Creative Arts Therapist Series*	0638	Telecommunications Series*	0391
Recreation Specialist Series*	0188	Telephone Operating Series*	0382
Rehabilitation Therapy Assistant Series*	0636	Textile Technology Series***	1384
Respiratory Therapist Series*	0651	Theater Specialist Series	1054
Restoration Technician Series*	0664	Therapeutic Radiologic Technologist Series**	0648
Safety & Occupational Health		Toxicology Series***	0415
Management Series*	0018	Trade Specialist Series**	1140
Safety Engineering Series**	0803	Traffic Management Series*	2130
Safety Technician Series**	0019	Training Instruction Series**	1712
Sales Store Clerical Series*	2091	Transportation Clerk and Assistant Series*	2102
Sanitarian Series**	0688	TRANSPORTATION GROUP	2100
Secretary Series*	0318	Transportation Industry Analysis Series*	2110
Securities Compliance Examining Series	1831	Transportation Loss and Damage Claims	
Security Administration Series*	0080	Examining Series	2135
Security Clerical and Assistance Series**	0086	Transportation Operations Series	2150
Security Guard Series*	0085	Transportation Specialist Series	2101
Social Insurance Administration Series*	0105	Transportation Student Trainee Series	2199
Social Science Aid and Technician Series	0102	Unemployment Insurance Series**	0106
SOCIAL SCIENCE, PSYCHOLOGY, AND		United States Marshal Series*	0082
WELFARE GROUP	0100	Veterans Claims Examining Series*	0996
Social Science Series	0101	VETERINARY MEDICAL SCIENCE GROUP	0700
Social Science Student Trainee Series	0199	Veterinary Medical Science Series*	0701
Social Services Aid and Assistant Series**	0186	Veterinary Student Trainee Series	0799
Social Services Series*	0187	Visual Information Series**	1084
Social Work Series*	0185	Vocational Rehabilitation Series*	1715
Sociology Series**	0184	Voucher Examining Series***	0540
Soil Conservation Series***	0457	Wage and Hour Compliance Series**	0249
Soil Conservation Technician Series**	0458	Welding Engineering Series	0894
Soil Science Series***	0470	Wildlife Biology Series***	0486
Speech Pathology and Audiology Series*	0665	Wildlife Refuge Management Series***	0485
Sports Specialist Series	0030	Work Unit Supervising Series**	0313
Statistical Assistant Series*	1531	Workers' Compensation Claims	
Statistics Series***	1530	Examining Series*	0991
Supply Cataloging Series**	2050	Writing and Editing Series**	1082
Supply Clerical and Technician Series*	2005	Zoology Series***	0410
SUPPLY GROUP**	2000		

PART II

Outline of Position Classification Plan for Trade, Craft, or Labor Job Families and Occupations

2500 – WIRE COMMUNICATIONS EQUIPMENT INSTALLATION AND MAINTENANCE FAMILY

Telecommunications Mechanic*	2502	Communications Line Installing and Repairing.....	2508
Wire Communications Cable Splicing	2504		

2600 – ELECTRONIC EQUIPMENT INSTALLATION AND MAINTENANCE FAMILY

Electronic Measurement Equipment Mechanic*	2602	Electronic Digital Computer Mechanic.....	2608
Electronics Mechanic*	2604	Electronic Integrated Systems Mechanic*	2610
Electronic Industrial Controls Mechanic*	2606		

2800 – ELECTRICAL INSTALLATION AND MAINTENANCE FAMILY

Electrician*	2805	Electrical Equipment Repairing*	2854
High Voltage Electrician*	2810	Aircraft Electrician*	2892

3100 – FABRIC AND LEATHER WORK FAMILY

Shoe Repairing	3103	Sewing Machine Operating*	3111
Fabric Working*	3105	Broom and Brush Making.....	3119
Upholstering*	3106		

3300 – INSTRUMENT WORK FAMILY

Optical Instrument Repairing*	3306	Instrument Mechanic*	3359
Instrument Making*	3314		

3400 – MACHINE TOOL WORK FAMILY

Machining*	3414	Tool Grinding	3417
Toolmaking*	3416	Die Sinking*	3428

3500 – GENERAL SERVICES AND SUPPORT WORK FAMILY

Laboring*	3502	Stevedoring	3543
Laboratory Working*	3511	Railroad Repairing*	3546
Coin/Currency Checking	3513	Custodial Working*	3566
Laboratory Support Working	3515		

3600 – STRUCTURAL AND FINISHING WORK FAMILY

Cement Finishing*	3602	Floor Covering Installing	3609
Masonry*	3603	Insulating*	3610
Tile Setting	3604	Glazing	3611
Plastering*	3605	Asphalt Working*	3653
Roofing*	3606		

3700 – METAL PROCESSING FAMILY

Flame/Arc Cutting	3702	Battery Repairing	3725
Welding*	3703	Buffing and Polishing	3727
Nondestructive Testing	3705	Metal Phototransferring	3735
Metalizing	3707	Circuit Board Making	3736
Electroplating*	3711	Furnace Operating	3741
Heat Treating	3712	Shot Peening Machine Operating	3769
Leadburning	3716		

3800 – METAL WORK FAMILY

Metal Forging*	3802	Airframe Jig Fitting	3819
Sheet Metal Mechanic*	3806	Shipfitting*	3820
Structural/Ornamental Iron Working	3807	Transfer Engraving	3833
Boilermaking*	3808	Metal Tank and Radiator Repairing	3858
Mobile Equipment Metal Mechanic*	3809	Metal Forming Machine Operating*	3869
Engraving	3816	Metal Tube Making, Installing, and Repairing	3872

3900 – MOTION PICTURE, RADIO, TELEVISION, AND SOUND EQUIPMENT OPERATING FAMILY

Motion Picture Projection*	3910	Broadcasting Equipment Operating	3940
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4000 – LENS AND CRYSTAL WORK FAMILY

Optical Element Working	4005	Prescription Eyeglass Making	4010
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4100 – PAINTING AND PAPERHANGING FAMILY

Painting*	4102	Sign Painting*	4104
Paperhanging	4103		

4200 – PLUMBING AND PIPEFITTING FAMILY

Pipefitting*	4204	Fuel Distribution System Mechanic	4255
Plumbing*	4206		

4300 – PLIABLE MATERIALS WORK FAMILY

Plastic Molding Equipment Operating	4351	Rubber Equipment Repairing	4361
Plastic Fabricating*	4352	Glassblowing	4370
Rubber Products Molding.....	4360	Molding.....	4373

4400 – PRINTING FAMILY

Bindery Working*	4402	Stereotype Platemaking	4440
Hand Composing	4403	Bookbinding	4441
Film Assembly-Stripping*.....	4405	Bank Note Designing	4445
Letterpress Operating	4406	Bank Note Engraving	4446
Negative Engraving*	4413	Sculptural Engraving	4447
Offset Photography*.....	4414	Siderographic Transferring	4448
Offset Platemaking*	4416	Electrolytic Intaglio Platemaking.....	4449
Offset Press Operating*.....	4417	Intaglio Die and Plate Finishing	4450
Silk Screen Making and Printing	4419	Intaglio Press Operating.....	4454
Photoengraving	4425		

4600 – WOOD WORK FAMILY

Blocking and Bracing*	4602	Patternmaking*	4616
Wood Working*	4604	Timber Working	4639
Wood Crafting*	4605	Form Block Making.....	4654
Carpentry*	4607		

4700 – GENERAL MAINTENANCE AND OPERATIONS WORK FAMILY

Model Making*	4714	General Equipment Operating	4741
Exhibits Making/Modeling.....	4715	Utility Systems Repairing-Operating*.....	4742
Railroad Car Repairing	4716	Research Laboratory Mechanic	4745
Boat Building and Repairing	4717	Maintenance Mechanic*	4749
General Equipment Mechanic	4737	Cemetery Caretaking*	4754

4800 – GENERAL EQUIPMENT MAINTENANCE FAMILY

Locksmithing*	4804	Bowling Equipment Repairing*	4819
Medical Equipment Repairing*	4805	Vending Machine Repairing	4820
Office Appliance Repairing*	4806	Tool and Equipment Repairing.....	4840
Chemical Equipment Repairing.....	4807	Orthopedic Appliance Repairing	4845
Custodial Equipment Servicing	4808	Mechanical Parts Repairing	4848
Protective and Safety Equipment Fabricating and Repairing	4816	Bearing Reconditioning*	4850
Aircraft Survival and Flight Equipment Repairing.....	4818	Domestic Appliance Repairing.....	4855

5000 – PLANT AND ANIMAL WORK FAMILY

Farming.....	5002	Dairy Farming	5034
Gardening*	5003	Livestock Ranching/Wrangling	5035
Pest Controlling*	5026	Tree Trimming and Removing.....	5042
Insects Production Working*	5031	Animal Caretaking*	5048

5200 – MISCELLANEOUS OCCUPATIONS FAMILY

Gas and Radiation Detecting	5205	Lofting	5221
Rigging*	5210	Test Range Tracking.....	5235
Shipwright*	5220		

5300 – INDUSTRIAL EQUIPMENT MAINTENANCE FAMILY

Air Conditioning Equipment Mechanic*.....	5306	Marine Machinery Mechanic*	5334
Heating and Boiler Plant Equipment Mechanic*.....	5309	Wind Tunnel Mechanic	5335
Kitchen/Bakery Equipment Repairing	5310	Industrial Furnace Building and Repairing.....	5341
Elevator Mechanic*	5313	Production Machinery Mechanic*	5350
Laundry and Dry Cleaning Equipment Repairing.....	5317	Industrial Equipment Mechanic*	5352
Lock and Dam Repairing.....	5318	Door Systems Mechanic	5364
Oiling and Greasing.....	5323	Physiological Trainer Mechanic	5365
Printing Equipment Repairing	5330	Powered Support Systems Mechanic*	5378
		Gasdynamic Facility Installing and Repairing	5384

5400 – INDUSTRIAL EQUIPMENT OPERATION FAMILY

Boiler Plant Operating*	5402	Chemical Plant Operating.....	5427
Incinerator Operating.....	5403	Gas Generating Plant Operating	5433
Utility Systems Operating*	5406	Carton/Bag Making Machine Operating	5435
Electric Power Controlling*	5407	Elevator Operating*.....	5438
Wastewater Treatment Plant Operating*.....	5408	Testing Equipment Operating	5439
Water Treatment Plant Operating*	5409	Packaging Machine Operating	5440
Fuel Distribution System Operating*	5413	Textile Equipment Operating	5446
Air Conditioning Equipment Operating*	5415	Paper Pulping Machine Operating	5455
Stationary-Engine Operating	5419	Portable Equipment Operating	5478
Sandblasting*.....	5423	Dredging Equipment Operating.....	5479
Weighing Machine Operating	5424	Counting Machine Operating	5484
Lock and Dam Operating*.....	5426	Aircraft Weight and Balance Operating	5485

5700 – TRANSPORTATION/MOBILE EQUIPMENT OPERATION FAMILY

Motor Vehicle Operating*	5703	Locomotive Engineering*	5737
Fork Lift Operating*	5704	Railroad Maintenance Vehicle Operating*.....	5738
Tractor Operating*	5705	Airfield Clearing Equipment Operating	5767
Road Sweeper Operating.....	5706	Ship Operating	5782
Engineering Equipment Operating*	5716	Riverboat Operating	5784
Crane Operating*.....	5725	Small Craft Operating*.....	5786
Drill Rig Operating*	5729	Deckhand.....	5788
Braking-Switching and Conducting*	5736		

5800 – TRANSPORTATION/MOBILE EQUIPMENT MAINTENANCE FAMILY

Heavy Mobile Equipment Mechanic*	5803	Automotive Mechanic*	5823
Mobile Equipment Servicing*	5806	Electromotive Equipment Mechanic	5876

6500 – AMMUNITION, EXPLOSIVES, AND TOXIC MATERIALS WORK FAMILY

Explosives Operating*	6502	Missile/Toxic Materials Handling	6511
Munitions Destroying*	6505	Explosives Test Operating*	6517

6600 – ARMAMENT WORK FAMILY

Artillery Repairing*	6605	Ordnance Equipment Mechanic*	6641
Artillery Testing	6606	Aircraft Ordnance Systems Mechanic*	6652
Small Arms Repairing*	6610	Special Weapons Systems Mechanic.....	6656

6900 – WAREHOUSING AND STOCK HANDLING FAMILY

Coal Handling.....	6903	Hazardous Waste Disposing*	6913
Tools and Parts Attending*	6904	Store Working*	6914
Materials Handling*	6907	Bulk Money Handling	6941
Materials Expediting*	6910	Aircraft Freight Loading.....	6968
Materials Examining and Identifying*	6912		

7000 – PACKING AND PROCESSING FAMILY

Packing*	7002	Equipment Cleaning*	7009
Preservation Servicing*	7006	Parachute Packing*	7010

7300 – LAUNDRY, DRY CLEANING, AND PRESSING FAMILY

Laundry Working*	7304	Pressing*	7306
Laundry Machine Operating*	7305		

7400 – FOOD PREPARATION AND SERVING FAMILY

Baking*	7402	Meatcutting*	7407
Cooking*	7404	Food Service Working*	7408
Bartending*	7405	Waiter*	7420

7600 – PERSONAL SERVICES FAMILY

Barbering*	7603	Beautician*	7641
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8200 – FLUID SYSTEMS MAINTENANCE FAMILY

Pneudraulic Systems Mechanic*	8255	Aircraft Pneudraulic Systems Mechanic*	8268
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8600 – ENGINE OVERHAUL FAMILY

Aircraft Engine Mechanic*.....	8602	Liquid Fuel Rocket Engine Mechanic	8675
Small Engine Mechanic	8610		

8800 – AIRCRAFT OVERHAUL FAMILY

Aircraft Propeller Mechanic	8810	Aircraft Attending*	8862
Aircraft Mechanical Parts Repairing*	8840	Airframe Test Operating.....	8882
Aircraft Mechanic*	8852		

9000 – FILM PROCESSING FAMILY

Film Assembling and Repairing.....	9003	Motion Picture Developing/ Printing Machine Operating	9004
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Definitions of Trade, Craft or Labor Families and Occupations

2500 – WIRE COMMUNICATIONS EQUIPMENT INSTALLATION

This job family includes occupations involved in the construction, installation, maintenance, repair, and testing of all types of wire communications systems and associated equipment that are predominantly electrical-mechanical. *Work involved in the installation and repair of communications equipment that requires in-depth knowledge of operating electronic principles should be coded to the electronic equipment installation and maintenance family, 2600.*

Occupations in this family are:

2502 - [Telecommunications Mechanic](#)*

This standard is for grading nonsupervisory jobs involved in installing, modifying, troubleshooting, repairing, and maintaining voice and nonvoice communication systems including central office, private branch automatic exchanges (PBAXs), local area network systems, telephone sets, wire carrier equipment, communication cable, alarm systems, intercom and public address systems, and teletype equipment. The work requires knowledge of telephone and data circuitry equipment and installation procedures; knowledge of basic electrical and electronic principles as they pertain to voice and nonvoice transmissions; the ability to understand and follow such technical guidance as circuit descriptions, schematics, and layout sheets; and the ability to locate and repair trouble within the telecommunications system.

2504 - Wire Communications Cable Splicing

This occupation includes jobs involved in splicing; diagnosing trouble; repairing; and testing aerial, ground, underground, and/or submarine multiple-conductor cables.

2508 - Communications Line Installing and Repairing

This occupation includes jobs that involve installing, maintaining, and repairing aerial and underground communications lines and auxiliary equipment such as conduits, insulators, and poles. The work does not require completing line connections.

2600 – ELECTRONIC EQUIPMENT INSTALLATION AND MAINTENANCE FAMILY

This job family includes occupations involved in the installation, repair, overhaul, fabrication, tuning, alignment, modification, calibration, and testing of electronic equipment and related devices such as radio, radar, loran, sonar, television, and other communications equipment; industrial controls; fire control, flight/landing control, bombing-navigation, and other integrated systems; and electronic computer systems and equipment.

Occupations in this family are:

2602 - [Electronic Measurement Equipment Mechanic*](#)

This standard covers nonsupervisory work involved in maintenance, repair, calibration, and certification of electronic test, measurement, and reference equipment used for precise measurement of a variety of electrical and electronic values, quantities, and relationships such as voltage, resistance, capacitance, frequency, and inductance. This equipment is also used to maintain and assure the functional accuracy and operational precision of industrial, experimental, airborne, marine, and ground electronic systems and equipment. This work requires a working knowledge and practical application of electronic principles and the ability to perform precise measurement of electrical and electronic values, quantities, and relationships. The work also requires skill in performing such processes as troubleshooting, repairing, modifying, overhauling, testing, installing, and calibrating a variety of measurement equipment, instruments, and consoles.

2604 - [Electronics Mechanic*](#)

This standard is for grading nonsupervisory jobs involved in fabricating, overhauling, modifying, installing, troubleshooting, repairing, and maintaining ground, airborne, and marine electronic equipment, such as: radio; radar; sonar; cryptographic; satellite; microwave; micro computers and peripherals; laser; infrared; industrial x-ray; marine, aeronautical, and space navigation aid; TV receiver; surveillance; and similar devices. The work requires knowledge of electronic principles; the ability to recognize improper operation, locate the cause, and determine the best method to correct the defect; and the skill to disassemble, assemble, and adjust electronic equipment. The work includes using both manual and automated test equipment. The work may require the use of a personal computer and numerous software packages to program or realign various components or systems, download information, and detect equipment deficiencies.

2606 - [Electronic Industrial Controls Mechanic*](#)

This standard covers nonsupervisory work involved in the installation, maintenance, troubleshooting, repair, and calibration of electronic controls and indicating and recording systems used on industrial machinery or engines, in automated materials storage and handling systems, in aircraft engine and similar test facilities, or in energy monitoring and control systems. This work requires knowledge of the practical application of electronics theories and circuits that are applicable to power, timing, motion control, indicating devices, and pulse and counting mechanisms, including special purpose digital computers (microprocessors) dedicated to control functions, as well as a knowledge of industrial equipment operation and processes.

2608 - Electronic Digital Computer Mechanic

This occupation includes jobs involved in the repair, troubleshooting, calibration, and testing of electronic digital computer systems and their components and peripheral devices when used for scientific engineering or administrative computation and recordkeeping; includes repairing and maintaining computer subsystems/components of integrated aircraft and weapons control systems where the work does not require considering the interaction of the items worked on with the total integrated system. The work requires knowledge of the operating electronic principles and mechanics of the computer and auxiliary components, understanding of computer logic, and ability to use a variety of electronic test equipment.

2610 - [Electronic Integrated Systems Mechanic](#)*

This standard covers nonsupervisory jobs involved in rebuilding, overhauling, installing, troubleshooting, repairing, modifying, calibrating, aligning, and maintaining integrated electronic systems, i.e., where the output of a number of sensor subsystems is integrated in a logic subsystem and the resultant used to modify the operation of the total system. Examples are: fire control, flight/landing control, automatic test equipment, flight simulators, combing navigation, and electronic warfare or multiple integrated electronic systems composed of several of these systems which are closely interrelated and interdependent. This work requires knowledge of electronics principles involved in a number of applications such as radar, data processing, and data display and usually mechanical and hydraulic knowledges involved in operation of equipment such as control valves, gyros, turrets and mounts, and mechanical computing devices.

2800 – ELECTRICAL INSTALLATION AND MAINTENANCE FAMILY

This job family includes occupations involved in the fabrication, installation, alteration, maintenance, repair, and testing of electrical systems, instruments, apparatus, and equipment.

Occupations in this family are:

2805 - [Electrician](#)*

This standard is used to grade all nonsupervisory jobs involved in the installation, maintenance, troubleshooting, and repair of electrical wiring systems, fixtures, controls, and equipment in industrial, institutional, office, and residential buildings, and on ships. These jobs require knowledge and application of electrical principles, materials, and safety standards.

2810 - [High Voltage Electrician](#)*

This standard covers nonsupervisory work involved in installing, testing, repairing, and maintaining high voltage electric power-controlling equipment and/or distribution lines. The work requires knowledge of electrical principles, procedures, materials, and safety standards governing electrical systems above 600 volts. In addition, the work requires general mechanical skills and knowledge, and in some cases may require knowledge of electronic principles as they pertain to electronic control circuitry. In some situations, the work includes testing, repairing, and maintaining electric-generating equipment in co-generation facilities.

2854 - [Electrical Equipment Repairing](#)*

This standard is for grading nonsupervisory jobs involved in troubleshooting, testing, installing, repairing, overhauling, modifying, and maintaining electrical devices, equipment, and components such as automatic alternator synchronizing equipment, amplidyne control units, voltage regulating equipment, generators, actuators, switching and control panels, junction boxes, AC and DC motors, electrical harnesses, transformers, and power amplifiers. Typically, the equipment and components serviced have been removed from aircraft, ships, ground support or industrial equipment, tracked or wheeled heavy duty vehicles, missiles, etc. The work requires knowledge of electrical circuitry, formulas, and principles and their application to the devices, equipment, components, and systems repaired. In addition, some work may require knowledge of electronic circuitry and theory and general mechanical skills and knowledge.

2892 - [Aircraft Electrician](#)*

This standard is used to grade nonsupervisory work involved in installing, troubleshooting, adjusting, testing, modifying, calibrating, and repairing aircraft electrical systems and equipment on board conventional and non-conventional aircraft such as electrical power control and distribution systems, lighting systems, refueling and fuel quantity indicating systems, electrical warning, controlling, and actuating circuits, and tying-in power and control circuits for functional systems, such as hydraulics, armament, radar, engines, and fire suppression. The work is characterized by the need to understand the functional characteristics and relationships of various electrical systems and equipment on aircraft.

3100 – FABRIC AND LEATHER WORK FAMILY

This job family includes occupations involving the fabrication, modification, and repair of clothing and equipment made of: (1) woven textile fabrics of animal, vegetable, or synthetic origin; (2) plastic film and filaments; (3) natural and simulated leather; (4) natural and synthetic fabrics; and (5) paper. Work involves use of hand tools and mechanical devices and machines to lay out, cut, sew, rivet, mold, fit, assemble, and attach findings to articles such as uniforms, rainwear, hats, belts, shoes, briefcases, holsters, equipage articles, tents, gun covers, bags, parachutes, upholstery, mattresses, brushes, etc.

Occupations in this family are:

3103 - Shoe Repairing

This occupation includes jobs involved in the resoling, reheeling, and repairing of boots and shoes by hand or by using such machines as sanders, stitches, trimmers, and rough rounders.

3105 - [Fabric Working](#)*

This standard covers nonsupervisory work involved in making, modifying, altering, and repairing clothing and/or equipment or other items such as awnings, tents, containments, gun covers, sleeping bags, parachutes, belts, carrying cases, flags, bed linens, protective clothing, work clothes, dress clothes, suits, coats, uniforms, and other articles made of fabric. Fabrics include wool, cotton, linen, canvas, nylon, polyester, rayon, acetate, acrylic, olefin, saran, metallic fabrics, fabrics made of rubber yarns or plastic filaments, leather, felt, fiberglass, vinyl, asbestos, and other similar materials. Fabric work involves taking measurements, making patterns and layouts, marking, cutting, fitting, and sewing or cementing parts together, using hand or power tools and equipment and knowledge of fabrics and construction methods.

3106 - [Upholstering](#)*

This standard covers nonsupervisory work that involves repairing and replacing upholstery, including fabrics, springs, webbing, filling, and padding, on items such as furniture, seats, and structural framework in houses, rooms, offices, aircraft, ships, boats, railroad cars, automobiles, trucks, buses, and other vehicles or equipment. Upholstering work involves taking measurements, making patterns and layouts, cutting fabrics, fitting and joining cover pieces, and installing and fastening upholstery materials in place, using hand or power tools and equipment and knowledge of fabrics and upholstery methods.

3111 - [Sewing Machine Operating](#) *

This standard covers nonsupervisory work which involves operating power sewing machines to sew, alter, or repair wearing apparel, linens, blankets, and other fabric articles. This includes operation of automatic sewing machines when the operator must know how to thread the machine, wind bobbins, adjust tension, and oil parts.

3119 - Broom and Brush Making

This occupation includes jobs involved in the hand and machine manufacture of brooms, brushes, sweepers, and dusters made of hair, Tampico hemp or Palmyra fiber, corn, hickory splints, and other material.

3300 – INSTRUMENT WORK FAMILY

This job family includes occupations that involve fabricating, assembling, calibrating, testing, installing, repairing, modifying, and maintaining instruments and instrumentation systems for measuring, regulating, and computing physical quantities such as mass, moment, force, acceleration, displacement, stress, strain, vibration or oscillation frequency, phase and amplitude, linear or angular velocity, spacetime position and attitude, pressure, temperature, density, viscosity, humidity, thermal or electrical conductivity, voltage, current, power, power factor, impedance, and radiation. Examples of such instruments and equipment are: gyro, optical, photographic, timekeeping, electrical, metered, pressure, and geared instruments; test equipment; and navigation, flight control, and fuel totalizing systems. The work requires knowledge of electrical, electronic, mechanical, optical, pneumatic, and/or hydraulic principles. *Work that primarily involves fabricating and repairing electronic instruments should be coded to the electronic equipment installation and maintenance family, 2600.*

Occupations in this family are:

3306 - [Optical Instrument Repairing](#)*

This standard covers nonsupervisory work involved in troubleshooting, overhauling, modifying, maintaining, and testing optical instruments such as binoculars, telescopes, cameras, sextants, gun sights, periscopes, and cinetheodolites. These jobs primarily require knowledge and application of optical principles, procedures, and materials and, in addition, knowledge of mechanical and electrical methods of mounting and controlling optical systems.

3314 - [Instrument Making](#)*

This standard is used to grade all nonsupervisory jobs involved in planning and fabricating complex research and prototype instruments that are made from a variety of materials and are used to detect, measure, record, and regulate heat, pressure, speed, vibration, sound, illumination, biomedical phenomena, and other areas of interest to scientific, engineering, or medical personnel.

3359 - [Instrument Mechanic](#)*

This standard is for grading nonsupervisory jobs involved in installing, aligning, modifying, troubleshooting, repairing, overhauling, testing, and calibrating a variety of instruments containing electric, mechanical, pneumatic, hydraulic, and/or electronic components, assemblies, and controls. The work includes using both manual and automated test equipment such as pneumatic, hydraulic, or vacuum test stands or computer controlled electronic test consoles to test, align, and calibrate instruments. The work also includes maintaining, repairing, and calibrating precision instruments and standards such as dial indicators, concentricity gauges, sine bars, micrometers, and plug and ring gauges. The work requires knowledge and application of electrical and mechanical principles; knowledge of pneumatic and/or hydraulic mechanisms; and, in some work situations, knowledge of electronic principles and theory.

3400 – MACHINE TOOL WORK FAMILY

This job family includes occupations that involve setting up and operating machine tools and using hand tools to make or repair (shape, fit, finish, assemble) metal parts, tools, gauges, models, patterns, mechanisms, and machines; and machining explosives and synthetic materials.

Occupations in this family are:

3414 - [Machining](#)*

This standard covers nonsupervisory work involved in the manufacture of parts and items of equipment from castings, forgings, and other raw stocks made of various metals, metal alloys, and other materials, and/or machining operations required in the repair of such items. The work requires the use of various types of conventional and/or computer numerical control (CNC) machine tools and their attachments to perform machining operations in the repair and/or manufacture of parts from raw stock. The work performed by machine tool operators requires basic knowledge of machining processes and skill in performing machining operations such as boring, drilling, planing, milling, and turning on milling machines, radial, or multiple spindle drill presses, shapers, planers, lathes, or equivalent types of conventional and/or CNC machine tools. The work performed by machinists requires skill in the initial planning of necessary work sequences, laying out reference points and lines to be followed in the machining processes, planning for and setting up the work in the machine, sometimes programming the cutter path, selecting and shaping metal cutting tools and inserts, operating all types of machine tools, and performing precision handwork to fit, finish, and assemble machined parts and equipment. The work also requires knowledge of the makeup of blueprints and drawings and the skill necessary to interpret them; and skill in working from other types of specifications such as sketches, models of parts to be manufactured, or work orders.

3416 - [Toolmaking](#)*

This standard covers nonsupervisory work involved in the fabrication, manufacture, calibration, reconditioning, and repair of machine tools, jigs, fixtures, dies, punches, and gages used in the manufacture, overhaul, and repair of equipment.

3417 - Tool Grinding

This occupation includes jobs involved in reconditioning tools, dies, punches, cutters, jigs, and fixtures by reshaping, sharpening, and refinishing them by hand, using files, abrasives, and other hand equipment, and by machine, using grinding wheels.

3428 - [Die Sinking](#) *

This standard is used to grade nonsupervisory jobs involved in machining and grinding matched impressions in steel blocks to repair and make metal dies which are used in forging shops.

3500 – GENERAL SERVICES AND SUPPORT WORK FAMILY

This job family includes occupations not specifically covered by another work family that require little or no specialized training or work experience to enter. These occupations usually involve work such as moving and handling materials (e.g., loading, unloading, digging, hauling, hoisting, carrying, wrapping, mixing, pouring, spreading); washing and cleaning laboratory apparatus, cars, and trucks, etc; cleaning and maintaining living quarters, hospital rooms and ward, office buildings, grounds, and other areas; and doing other general maintenance work by hand or using common handtools and power equipment. They may involve heavy or light physical work and various skill levels. Skills are generally learned through job experience and instruction from supervisors or, in some instances, formal training programs lasting a few days or weeks or longer.

Occupations in this family are:

3502 - [Laboring](#)*

This standard covers nonsupervisory work that primarily requires physical effort and ability to perform laboring duties that involve little or no specialized skill or prior work experience. The work typically involves duties such as loading and unloading trucks; moving office furniture, equipment, and supplies by hand or with various moving devices (e.g., dollies and/or hand trucks); mowing lawns and trimming shrubs; washing vehicles; and clearing and digging ditches. These duties are commonly found in a variety of work situations such as roads and grounds maintenance, industrial operations, warehouses, office buildings, printing facilities, supply centers, and production areas.

3511 - [Laboratory Working](#) *

This standard covers nonsupervisory work requiring ability to clean, prepare for sterilization, sterilize, and assemble laboratory and hospital glassware, instruments, and related items. This work includes such tasks as sorting and loading items into washing machine baskets; operating washing machines, sterilizers, water stills, and centrifuges; preparing flasks, beakers, vials, test tubes, and dishes by capping, corking, plugging, and wrapping; of glassware, instruments, tubing, adapters, connectors, etc., into a composite unit.

3513 - [Coin/Currency Checking](#)

This occupation includes jobs involved in visually examining: (1) finished coins and medals for finish, appearance, discoloration, missing letters, etc.; or (2) U.S. currency, stamps, bonds, and other paper securities and documents to detect imperfections.

3515 - Laboratory Support Working

This occupation includes jobs involved in performing manual work in laboratories, clinics, etc., in support of educational, research, or similar activities. Work includes such tasks as preparing samples by measuring, grinding, drying, sieving, chopping, and mixing materials and solutions; transporting, setting up, dismantling, and arranging models, exhibits, equipment, and supplies; checking equipment for proper operation; and operating and making minor repairs to auxiliary equipment such as water stills, electric power distribution panels, pH meters, and spectrophotometers. It does not include jobs that primarily require technical knowledge of the biological or agricultural sciences, physical sciences, medicine, or other scientific activities.

3543 - Stevedoring

This occupation includes jobs involved in operating winches and in working under ship's tackle or dockside or floating cranes to load and unload ships, barges, and other vessels; transporting materials between dockside or lighter and ship's deck or hold; and performing necessary rigging, lashing, and stowing.

3546 - [Railroad Repairing](#)*

This standard covers the nonsupervisory work involved in installing, removing, aligning, maintaining, and repairing rails, ties, ballast, switches, frogs, joints and other parts of railroad tracks and roadbeds using hand operated power tools and other manually operated equipment. The work requires a knowledge of the layout and maintenance requirements of tracks, roadbeds, and their parts, and ability to find and repair defects in them using specialized railroad maintenance equipment.

3566 - [Custodial Working](#)*

This standard is to be used for grading jobs made up of janitorial and custodial work, such as sweeping, scrubbing, and waxing floors; washing windows and walls; dusting and polishing furniture and fixtures; and emptying waste cans. Work is done by hand or with powered equipment. This standard should not be used to grade jobs requiring the operation of a street sweeper or similar equipment.

3600 – STRUCTURAL AND FINISHING WORK FAMILY

This job family includes occupations not specifically covered by another work family that involve doing structural and finishing work in construction, maintenance, and repair of surfaces and structures (e.g., laying brick, block, and stone; setting tile; finishing cement and concrete; plastering; installing, maintaining, and repairing asphalt, tar, and gravel; roofing; insulating and glazing).

Occupations in this family are:

3602 - [Cement Finishing](#)*

This standard is used to grade all nonsupervisory jobs involved in construction and repair of cement and concrete surfaces and structures.

3603 - [Masonry](#)*

This standard is used to grade all nonsupervisory jobs involved in maintenance, repair, alteration, and construction of masonry structures of brick, block, stone, firebrick, and similar materials.

3604 - [Tile Setting](#)

This occupation includes jobs involved in the application of structural and/or glazed tile walls, floors, and ceilings according to specified designs.

3605 - [Plastering](#)*

This standard is used to grade all nonsupervisory jobs involved in the application and finishing of plaster surfaces in the construction and repair of interior walls and ceilings and stucco exterior walls.

3606 - [Roofing](#)*

This standard is used to grade all nonsupervisory jobs involved in maintenance, installation, repair, and weatherproofing of roofs.

3609 - [Floor Covering Installing](#)

This occupation includes jobs involved in laying tile, linoleum, vinyl sheet goods, and/or carpeting on floors. May include installing coverings on walls and cabinet tops.

3610 - [Insulating](#)*

This standard is used to grade nonsupervisory jobs that involve fabrication and installation of insulating materials on tanks, boilers, turbines, pumps, pipes, valves, ducts, and other structures to reduce heat loss or absorption, prevent moisture condensation, or reduce sound levels. This work requires a knowledge of insulating materials and their insulating properties and the ability to lay out, form, and install a variety of insulating materials on regular and irregular shaped objects.

3611 - [Glazing](#)

This occupation includes jobs involved in cutting, fitting, polishing, and installing window or skylight glass and structural and plate glass or glass substitutes; and/or setting and replacing broken windshields and window glass in automotive and engineering type equipment.

3653 - [Asphalt Working](#)*

This standard is used to grade all nonsupervisory jobs involved in maintenance, repair, and construction of roads, pavements, parking areas, or similar surfaced areas of asphalt.

3700 – METAL PROCESSING FAMILY

This job family includes occupations that involve processing or treating metals to alter their properties or produce desirable qualities such as hardness or workability, using processes such as welding, plating, melting, alloying, casting, annealing, heat treating, and refining.

Occupations in this family are:

3702 - Flame/Arc Cutting

This occupation includes jobs involved in cutting metal, using gas burning or electric arc cutting equipment.

3703 - [Welding](#)*

This standard covers the nonsupervisory work of welding metals and alloys. The work requires knowledge of electric, gas, and other welding processes such as electron beam welding, and the skill to apply these processes in manufacturing, repairing, modifying, rebuilding, and assembling various types of metal and alloy parts, equipment, systems, and structures such as buildings, aircraft, and ships.

3705 - Nondestructive Testing

This occupation includes jobs involved in the nondestructive examination of metals, composites, ceramics, plastics, and other materials for internal and external structural defects, delaminations, corrosion, and moisture penetration using magnetic particle, liquid penetrant, eddy current, radiographic, ultrasonic, or other types of nondestructive test processes and equipment. The work includes equipment setup, operation, adjustment, and evaluation or interpretation of test readings or results within established parameters for acceptance or rejection. This occupation does not include jobs that primarily require: (1) journey level knowledge and skill of the work processes involved in producing or repairing the items or materials tested; or (2) technical knowledge of engineering, physical, or other sciences in the direct support of laboratory or research operations.

3707 - Metalizing

This occupation includes jobs involved in dipping or spraying molten metal coatings, such as tin, zinc, or copper, or metal objects by hand or by use of equipment such as metal spraying machines or galvanizing equipment.

3711 - [Electroplating](#)*

This standard covers nonsupervisory work involving the use of electrolytic and chemical processes to plate, coat, and treat surfaces of metals and metal alloys for purposes of protection, repair, maintenance, and fabrication of parts and equipment. The work requires a knowledge of the preparation, testing, and maintenance of various electrolytic and chemical solutions; and skill in controlling and using them in performing the processes required to prepare, plate, coat, or otherwise treat various types of surfaces.

3712 - Heat Treating

This occupation includes jobs involved in heat treating metals in a furnace or preheated chemical bath to alter the physical and chemical properties of the metal to produce a specific degree of hardness, toughness, or strength by an established process of controlled heating and cooling; and/or operating an annealing furnace and a series of vats to anneal, treat, wash, and rinse metal components.

3716 - Leadburning

This occupation includes jobs involved in burning (welding) lead and lead alloy parts in fabricating, repairing, and installing lead fixtures and equipment.

3725 - Battery Repairing

This occupation includes jobs involved in disassembling, repairing, reassembling, and charging batteries used in aircraft, electric trucks, motor vehicles, and other types of equipment, including breaking down batteries (removing compound, connector, and cell groups), washing down and diagnosing extent of repairs needed, and repairing and/or rebuilding batteries according to diagnosis requirements (assembling new cell groups, replacing compounds and lead burning connections, and replacing or rebuilding terminal posts).

3727 - Buffing and Polishing

This occupation includes jobs involved in finishing metal surfaces by buffing, polishing, deburring, burnishing, filing, grinding, and barrel tumbling, using hand tool or powered equipment such as grinders, files, chisels, polishing wheels, and wire brushes.

3735 - Metal Phototransferring

This occupation includes jobs involved in making metal templates, name plates, warning and informational signs, dial facings, switch covers, test plates, schematic drawings, and other items, using photographic methods to transfer drawings to light-sensitized surfaces of metal stock. (This process is used in metalworking operations; it is not used in printing or lithographic shops or in preparing conventional photographs for generalized use.)

3736 - Circuit Board Making

This occupation includes jobs involved in making printed circuit boards for use in electronic assemblies by photosensitizing prepared laminate sheets, photoetching prepared pattern on laminate sheets, deep-etching circuits, and electroplating circuits as necessary.

3741 - Furnace Operating

This occupation includes jobs involved in operating and controlling electric, oil, or gas-fired furnaces to melt ferrous, nonferrous, and precious metals or alloys for casting into ingots, bars, slabs, sponges, etc., and may include transferring molten metal to ladle and pouring metal into molds.

3769 - Shot Peening Machine Operating

This occupation includes jobs involved in setting up and operating an air blast shot peening machine to harden or strengthen metal surfaces (e.g., the bending and twisting surfaces of landing gear struts, propeller caps, master rods, fulcrums, propeller shafts, and crankshafts). The work includes examining parts received to determine areas to be shot peened and to reject those with imperfections; setting up machine; making test runs on identical parts using Almen metal testing strips, and making necessary adjustments after test runs to obtain adequate peening prior to peening parts on a production basis; and checking and maintaining shot peening machine in operating condition.

3800 – METAL WORK FAMILY

This job family includes occupations involved in shaping and forming metal and making and repairing metal parts or equipment and includes such work as the fabrication and assembly of sheet metal parts and equipment; forging and press operations; structural iron working, boilermaking, shipfitting, and other plate metal work; rolling, cutting, stamping, riveting, etc. It does not include machine tool work.

Occupations in this family are:

3802 - [Metal Forging](#)*

This standard covers nonsupervisory work involving the fabrication and repair of various types of ferrous, ferrous-alloy, and nonferrous metal tools, parts, equipment, and structural plates by forging and other methods such as hardening, tempering, stress relieving, and annealing. Forging methods include forging, drop forging, upset forging, and the shaping of metal parts utilizing heat and the force of power or hand hammers to produce required dimensions and contours.

3806 - [Sheet Metal Mechanic](#)*

This job grading standard covers nonsupervisory jobs involved in the repair, fabrication, modification, and installation of sheet metal parts, items, and assemblies.

3807 - Structural/Ornamental Iron Working

This occupation includes jobs involved in fabricating, installing, and repairing steel framework and other parts of buildings, bridges, and other structures and equipment; fitting together and installing iron grills, gratings, stairways, enclosures, and other ornamental ironwork; and/or assembling prefabricated metal parts such as slotted angle iron and panels into items such as work stands, scaffolds, dollies, and positioning devices. The work includes following blueprints, measuring for correct alignment, cutting pieces to size, drilling holes, and fastening members together by bolting, riveting, welding, etc.

3808 - [Boilermaking](#)*

This standard is to be used to grade nonsupervisory jobs involved in the modification, fabrication, repair, assembly, and installation of boilers, tanks, condensers, uptakes, stacks, other pressure vessels, and similar structures of heavy-gauge metal plate.

3809 - [Mobile Equipment Metal Mechanic](#)*

This standard covers the nonsupervisory work of maintaining and repairing mobile equipment bodies and mainframe groups. The work requires a knowledge of mobile equipment body construction, the ability to determine the extent of damage and most economical methods of repair, and the skill to remove, fabricate, reshape and replace or repair such damage as, dents, tears, wrinkles, cuts and creases by cutting, knocking out, welding, filling and sanding. Work is performed on such mobile equipment as passenger cars, trucks, buses, warehouse tractors, fork lifts, ambulances, cranes, fire trucks, and mobile construction equipment.

3816 - Engraving

This occupation includes jobs involved in engraving lettering and ornamental designs on metal and plastic pieces such as nameplates, silverware, trophies, lighters, and jewelry according to sketches, diagrams, photographs, or sample work pieces, using hand tools or pantograph engraving machine.

3819 - Airframe Jig Fitting

This occupation includes jobs involved in assembling, fitting, and aligning airframe jigs used in the reworking of aircraft control surfaces, wings, and fuselage sections. The work requires the ability to visualize the configuration of the jig from multiple, cross-referenced engineering prints and to determine the tolerance with which the jig must conform; skill in using optical alignment equipment to measure and spot distances and angles so that reference points can be physically located, mechanically adjusted, and set on the jig framework within close tolerances; and knowledge of solid geometry, trigonometry, and algebra to compute reference locations.

3820 - [Shipfitting](#)*

This standard is to be used for grading nonsupervisory jobs involved in the modification, fabrication, repair, assembly, and installation of various metal structural parts of ships and other vessels. The work requires knowledge of shipfitting equipment, structures, and metals; skill in laying out, cutting, and shaping of metal parts; and ability to position, align, and secure parts and subassemblies on ships or other vessels.

3833 - Transfer Engraving

This occupation includes jobs involved in plaster of paris casting, electroforming (electrometallurgy), and setting up and operating Janvier die cutting machines (transfer engraving machines) to make exact reproductions or reductions, master dies and hubs, brass intermediates, wax enlargements, plaster of paris molds, and electrotypes (galvanos) from sculptors' original models of United States and foreign coinage, medals, military insignia, Governmental and special award citations, emblems, and lapel buttons.

3858 - Metal Tank and Radiator Repairing

This occupation includes jobs that involve the troubleshooting, repair, modification, and testing of aircraft and automotive radiators, air coolers, oil temperature regulators, pontoons, and aircraft tanks and reservoirs made of various kinds of metal such as aluminum, copper, brass, stainless steel, and black iron. The work includes locating and repairing leaks, removing defective parts, and installing new parts.

3869 - [Metal Forming Machine Operating](#)*

This standard covers nonsupervisory work involved in setting up, adjusting, and operating metal forming machines such as sheet metal rolls, brakes, shears, hydraulic or mechanical presses, band saws, blanking presses, punch presses, cut-off saws, flank machines, combination beading machines, planishing machines, shrinking machines, nibblers, power riveters, turret punches, metal stitching machine, drop hammers, and rivet making machines that cut, punch, stamp, draw, shape, and roll cold metal sheets, strips, or wire into desired shapes or contours. The work includes removing and installing dies, punches, and other accessories; aligning the mating parts, allowing for clearances; replacing worn or damaged parts; feeding the sheet metal into the machines; and manipulating the controls to perform the operations required to form sheet metal parts such as for the skin and frame of aircraft, and proof and finished coins, through extrusion and/or other methods.

3872 - Metal Tube Making, Installing, and Repairing

This occupation includes jobs involved in laying out, fabricating, bending, repairing, testing, and installing rigid and flexible metal tubing and welded tube assemblies for use in aircraft hydraulic, fuel, oxygen, and oil systems, and conduits for wiring or cable installations; and forming flat, angular, and channel sheet metal parts into metal tubing and pipe varying radii. It includes working from blueprints; determining dimensions; selecting or manufacturing bending dies, clamps, and mandrels and mounting them on the machine; making tube bending templates that are used to indicate the number of bends, bend radii, and angle and rotation of bends; and setting up, adjusting, and operating manual, pneumatic, and/or small and large hydraulic tube bending machines, spinning swages, hydraulic forming machines, hydraulic presses, milling machines, and engine lathes to bend pipe, tubing, and sheet metal stock to accurately determined angles and specified radii, to cold draw, expand, bead, and double flare pipe and tubing, and to cut and finish tubing.

3900 – MOTION PICTURE, RADIO, TELEVISION, AND SOUND EQUIPMENT OPERATION FAMILY

This job family includes occupations involved in setting up, testing, operating, and making minor repairs to equipment such as microphones, sound and radio controls, sound recording equipment, lighting and sound effects devices, television cameras, magnetic video tape recorders, motion picture projectors, and broadcast transmitters used in the production of motion pictures and radio and television programs. It also includes occupations that involve related work such as operating public address system equipment.

Occupations in this family are:

3910 - [Motion Picture Projection](#)*

This standard is used to grade nonsupervisory work involved in the operation and operational maintenance of motion picture equipment such as 8 mm, 16 mm, fixed and portable 35 mm or film strip silent and sound projectors, accessories, and associated equipment.

3940 - Broadcasting Equipment Operating

This occupation includes jobs involved in operating and adjusting transmitters and associated antennas and switchgear, broadcast studio consoles, tape and disk playback and reproduction equipment, recording lathes, and other related equipment and facilities used for originating, recording, receiving, and transmitting radio or television broadcasts, including starting up and shutting down transmitters; adjusting tone, volume, and picture quality of programs; monitoring through loudspeaker, headphone, or video equipment; observing volume indicators; making minor repairs and changing parts; keeping operating log; and receiving news messages.

4000 – LENS AND CRYSTAL WORK FAMILY

This job family includes occupations involved in making precision optical elements, crystal blanks or wafers, or other items of glass, crystalline substances, synthetics, polished metals, or similar materials, using such methods as cutting, etching, grinding, polishing, etc.

Occupations in this family are:

4005 - Optical Element Working

This occupation includes jobs involved in blocking, grinding, etching, polishing, coating, cementing, silvering, and assembling optical elements such as reticles, prisms, lenses, and optical test plates of glass or other materials for use in precision instruments.

4010 - Prescription Eyeglass Making

This occupation includes jobs that involve grinding and polishing eyeglass lenses to prescription specifications and/or cutting, edging, and mounting lenses in frames.

4100 – PAINTING AND PAPERHANGING FAMILY

This job family includes occupations that involve hand or spray painting and decorating interiors and exteriors of buildings, structures, aircraft, vessels, mobile equipment, fixtures, furnishings, machinery, and other surfaces; finishing hardwoods, furniture, and cabinetry; painting signs; covering interiors of rooms with strips of wallpaper or fabric, etc.

Occupations in this family are:

4102 - [Painting](#)*

This standard is used to grade all nonsupervisory jobs involved in applying coating materials (for example, paint, varnish, lacquer, shellac, epoxy resin, and teflon) on wood, metal, glass, synthetic, concrete, and other surfaces. This coating work is done with brushes, rollers, spray guns, and other related methods and techniques, and is performed on the insides and outsides of buildings, aircraft, vessels, mobile equipment, fittings, furnishings, machinery, and other surfaces.

4103 - Paperhanging

This occupation includes jobs involved in the papering or covering of room interiors with strips of wallpaper or fabric.

4104 - [Sign Painting](#)*

This standard covers the nonsupervisory work of producing signs and posters, decorating models and displays, painting markings on vehicles, ships, or aircraft, or performing other functions requiring skill in lettering. The work involves the ability to design, lay out, and decorate signs, to execute freehand and mechanical lettering, and skill in various production techniques such as silkscreen printing, application of reflective sheeting, and lettering with machines.

4200 – PLUMBING AND PIPEFITTING FAMILY

This job family includes occupations that involve the installation, maintenance, and repair of water, air, steam, gas, sewer, and other pipelines and systems, and related fixtures, apparatus, and accessories.

Occupations in this family are:

4204 - [Pipefitting](#)*

This standard is used to grade all nonsupervisory jobs involved in the installation, maintenance, and repair of high temperature water and high-pressure piping systems such as hydraulic, nitrogen, oxygen, steamheating, and steam-generating systems.

4206 - [Plumbing](#)*

This standard is used to grade all nonsupervisory jobs involved in the installation, modification, and repair of utility, supply, and disposal systems, fixtures, fittings, and equipment such as sewage, water, gas, and oil lines, compressed air, vacuum, and acid systems, water closets, water heaters, hydrants, valves, and pumps.

4255 - Fuel Distribution System Mechanic

This occupation includes jobs involved in the maintenance and overhaul of pumps, control valves and meters, gauges, filters, separators, tanks, pipelines, and other equipment of one or more mechanical, aqua, or hi-speed hydrant fueling and de-fueling systems.

4300 – PLIABLE MATERIALS WORK FAMILY

This job family includes occupations involved in shaping, forming, and repairing items and parts from non-metallic moldable materials such as plastic, rubber, clay, wax, plaster, glass, sand, or other similar materials.

Occupations in this family are:

4351 - Plastic Molding Equipment Operating

This occupation includes jobs involved in manufacturing plastic items and parts using a variety of molding equipment. The work involves the set up and operation of molding equipment, using such manufacturing techniques as injection, extrusion, compression, transfer, and slush molding, and a knowledge of the physical properties of plastics, and compound materials such as fillers, dyes, and catalysts. May involve the operation of pre-heaters, shredding machines, and hand tools.

4352 - [Plastic Fabricating](#)*

This job grading standard covers nonsupervisory jobs involved in the repair, fabrication, modification, removal, and installation of composite and/or plastic items, parts, assemblies, and structures.

4360 - Rubber Products Molding

This occupation includes jobs involved in compounding ingredients and chemicals of established and newly developed formulas into batches of synthetic rubber or manufacturing natural and synthetic rubber articles such as hoses, tubes, gaskets, packings, and washers, using molding and extruding machines and curing ovens.

4361 - Rubber Equipment Repairing

This occupation includes jobs involved in repairing, modifying, testing, and installing synthetic and natural rubber equipment such as oil, water, and alcohol cells and tanks, life rafts, weather and pressure seals, and tires and tubes, using cold patching and vulcanizing repair procedures. The work includes checking items for damage, selecting materials and preparing surface for repair, and operating low pressure forming and curing equipment.

4370 - Glassblowing

This occupation includes jobs involved in the development, fabrication, construction, and repair of all types of blown glass such as bottles and pressed or blown scientific, technical, and industrial glassware.

4373 - Molding

This occupation includes jobs involved in making bench, floor, or sweep molds for producing foundry castings. This includes the operation of screw core making machines and core blowing machines.

4400 – PRINTING FAMILY

This job family includes occupations involved in letterpress (relief), offset-lithographic, gravure (intaglio), or screen printing; includes layout, hand composition, photoengraving, platemaking, printing, and finishing operations.

Occupations in this family are:

4402 - [Bindery Working](#)*

This standard covers the nonsupervisory work involved in setting up and operating manual and powered bindery machines such as cutters, collators, binders, drills, folders, stitches, sorters, joggers, and punches in order to assemble and process a variety of paper stock and printed materials, such as maps, charts, books, manuals, pamphlets, circulars, and other publications. The work requires skill in the setup, adjustment, operation, and minor maintenance of bindery machinery and a general knowledge of the quality, use and machinability of various types of paper stock.

4403 - Hand Composing

This occupation includes jobs involved in the setting and breakdown of type by hand, combined with the proofreading of work for composition and typographical detail.

4405 - [Film Assembly-Stripping](#)*

This standard is used to grade nonsupervisory work involved in the assembly, stripping, opaquing, and splicing of photographic negatives and positives for partial, single, composite, and multiple flat layouts with one or more units up which are used in subsequent offset platemaking processes to produce a variety of printed material. Such work requires a practical understanding of the relationship between film assembly-stripping and other offset reproduction processes.

4406 - Letterpress Operating

This occupation includes jobs involved in the operation and maintenance of presses used for printing material by the letterpress (relief) method from cast metal type or plates on which the printing areas are raised above the non-printing areas.

4413 - [Negative Engraving](#)*

This standard is to be used for grading nonsupervisory work involving the use of lithographic and engraving processes in making free-hand corrections, revisions, additions, or modifications on new or existing plastic, and/or film negatives and positives in connection with the reproduction of items such as charts, maps, and other similar publications. The Negative Engraver may make corrections on metal printing plates with pen and tusche. The work requires skill in using standard engraving handtools and solutions (e.g., water color brushes, various kinds of engraving and etching pens, rulers, lithographic pens, various opaques), and a number of drafting machines.

4414 - [Offset Photography](#)*

This standard is to be used for grading the nonsupervisory work of operating photographic equipment such as precision process cameras, scanners, and contact frames to make line, continuous tone, halftone, and color separation negatives and positives required for the preparation of lithographic printing plates. The offset photographer may also process film using tray development techniques and automatic film processing equipment. The work requires knowledge of photographic equipment operations, techniques, and processes, and a practical understanding of the relationship between offset photography and other offset work operations involved in the lithographic reproduction of single-color and multicolor materials such as manuals, handbooks, pamphlets, maps and charts, and medical atlases. Offset photographers apply knowledge and skill in the evaluation of copy; adjustment of camera and other equipment control settings; use of lenses, filters, halftone and special pattern screens, and photographic materials; selection and arrangement of lighting; determination of the type and number of exposures needed; use of photographic procedures and methods such as enlarging and reducing, dropout, dodging, compositing, vignetting, process color separation, and color correction; and film processing. The work also involves skill in mounting and registering copy, and in the use of instruments such as timers, light and light integrating meters, densitometers, dot percentage readers, and exposure computers.

4416 - [Offset Platemaking](#)*

This standard is used to grade all nonsupervisory work involved in the processing of photographic images onto metal, paper, or plastic plate materials to produce lithographic plates which are used in the offset reproduction of printed matter. Also included is work involved in producing paper or plastic masters using photodirect or electrostatic equipment for the primary purpose of platemaking, as well as other related platemaking processes such as performing color proofing and making peel coats, scribe coats, and hand transfers. This work requires knowledge of the various types of plates, plastic media, processing and developing solutions, platemaking equipment (e.g., vacuum frames, whirling machines, automatic plate processors, photodirect and electrostatic platemaking equipment), and skill in their use to perform platemaking and other related processes necessary in the offset reproduction process.

4417 - [Offset Press Operating](#)*

This standard is to be used for grading all nonsupervisory work involved in the setup, adjustment, operation, and operator maintenance of offset printing presses to produce a variety of single-color, two-color and multicolor printed materials such as manuals, reports, handbooks, pamphlets, maps and charts, and medical atlases. The work requires knowledge of offset press operations, techniques, and processes, and a practical understanding of the relationship between offset press operating and other offset reproduction processes.

4419 - [Silk Screen Making and Printing](#)

This occupation includes jobs involved in preparing silkscreen stencils by hand or photographic process, and screen printing letters, diagrams, and designs on various objects such as decals, posters, and instrument dials.

4425 - Photoengraving

This occupation includes jobs involved in making zinc, brass, and copper plates for use in letterpress printing.

4440 - Stereotype Platemaking

This occupation includes jobs involved in making stereotype plates for letterpress printing, including preparing the form, molding it into the matrix, and preparing the plates for the press.

4441 - Bookbinding

This occupation includes jobs involved in hand binding, rebinding, recasing, and restoring hardback books, manuscripts, musical scores, unbound material, etc. The work includes all hand operations entailed in affixing covers to form books and in finishing same.

4445 - Bank Note Designing

This occupation includes jobs involved in drawing, designing, and preparing various kinds of models used in determining the design of engraved plates from which bonds, currency, postage and revenue stamps, and other securities are produced, employing a style and manner calculated to prevent counterfeiting.

4446 - Bank Note Engraving

This occupation includes jobs involved in drawing and engraving script, lettering, lathe work, and designs of various kinds on steel dies or plates, and in producing portraits, landscapes, figures, and ornamental engravings on steel dies from which intaglio printing plates are reproduced, employing a style and manner designed to prevent counterfeiting.

4447 - Sculptural Engraving

This occupation includes jobs involved in tracing from bank note designer models, transferring tracings to metal, and engraving designs on steel embossing dies that are subsequently used in the manufacture of securities and seals.

4448 - Siderographic Transferring

This occupation includes jobs involved in reproducing engravings on steel plates and rolls from original dies, making it possible to produce a single design from individual engravings (lettering, ornamental scrolls, portraits, vignettes, and geometric lathe work) according to models and layouts, and reproducing multiple-subject plates from single-subject dies for printing bank notes, bonds, and other securities.

4449 - Electrolytic Intaglio Platemaking

This occupation includes jobs involved in manufacturing intaglio printing plates by electroforming or galvanoplastic reproduction and in examining and coating or recoating electrolytic and steel intaglio printing plates and miscellaneous machine parts with chromium by electroplating.

4450 - Intaglio Die and Plate Finishing

This occupation includes jobs involved in finishing, altering, and restoring engraved areas of intaglio dies and plates and making spot repairs of injuries in the printing plates on the presses. This includes scraping, punching, rolling, grinding, and burnishing the unengraved areas of intaglio dies, rolls, and plates and requires the skillful use of hand and/or machine tools to prepare plates to meet the operational requirements of the various printing presses without disturbing the engraving.

4454 - Intaglio Press Operating

This occupation includes jobs involved in the operation and maintenance of intaglio presses (die-stamping or gravure presses) used for printing material by the intaglio method from plates that use a sunken or depressed surface for the printing area.

4600 – WOOD WORK FAMILY

This job family includes occupations involved in the construction, alteration, repair, and maintenance of wooden buildings and other structures, and the fabrication and repair of wood products such as furniture, foundry patterns, and form blocks, using power and hand tools.

Occupations in this family are:

4602 - [Blocking and Bracing](#)*

This standard is used to grade nonsupervisory work involved in blocking, bracing, staying, and securing cargo for shipment by land, sea, or air. It requires skill in constructing, placing, and installing wooden blocks, wedges, bracing structures and other staying devices, as well as skill in securing items using wires, ropes, chains, cables, plates, and other hardware.

4604 - [Wood Working](#)*

This standard is for use in grading nonsupervisory work involved in the construction, installation, and repair of shipping and storage containers and material handling items such as boxes, crates, skids, pallets, and storage bins made from wood or wood substitute materials. The work requires skill in using hand and power tools and machines to measure, cut, install, and fasten wood and wood substitute materials, and the knowledge and ability to follow, select, or adapt patterns, templates, and procedures to make, install, and repair wood and wood substitute items.

4605 - [Wood Crafting](#)*

This standard covers nonsupervisory work which involves making and repairing high-grade wooden items such as fine cabinetry and furniture. The work involves shaping and contouring surfaces; precise, intricate joining and decorating; skilled use of the full range of woodworking tools, machines, and techniques; and application of extensive knowledge of the appearance, durability, strength, and machining characteristics of a wide range of wood and wood substitutes.

4607 - [Carpentry](#)*

This standard is used to grade nonsupervisory work involved in constructing, altering, maintaining, and repairing buildings, structures, partitions, panels, tool cabinets, bookcases, work benches, and other items using wood, wood substitutes, and composite building materials. The work requires knowledge of construction and repair techniques; the type, grade, and working characteristics of wood and wood substitute materials such as strengths and applications, and skill and accuracy in the operation of hand and power tools and equipment.

4616 - [Patternmaking](#)*

This standard covers nonsupervisory work which involves planning, laying out, and constructing patterns and core boxes used in forming molds for castings of ferrous and nonferrous metals and other substances. The patterns and core boxes are made from a variety of materials such as wood, wood products, and wood substitutes.

4639 - Timber Working

This occupation includes jobs involved in constructing, installing, maintaining, and repairing piers, wharves, moorings, gangways, and similar docking facilities; fender piling around wharves and dolphin structures for offshore mooring of ships; pontoons, camels, rafts; wooden bridges and trestles; tunnel and sewer supports; and other framing or supporting structures from timbers and planking.

4654 - Form Block Making

This occupation includes jobs involved in laying out and constructing solid wood and wood substitute form blocks used by sheet metal, plate metal, plastic, and fiber glass workers to produce commercial and aircraft parts. The work includes laying out parts with multiple contours and irregular shapes from assembly blueprints, and studying and interpreting technical information such as loft tables, blueprints, technical orders, and microfilm.

4700 – GENERAL MAINTENANCE AND OPERATIONS WORK FAMILY

This job family includes occupations: (1) that consist of various combinations of work that are involved in constructing, maintaining, and repairing buildings, roads, grounds, and related facilities; manufacturing, modifying, and repairing items or apparatus made from a variety of materials or types of components; or repairing and operating equipment or utilities; and (2) require the application of a variety of trade practices associated with occupations in more than one job family (unless otherwise indicated), and the performance of the highest level of work in at least two of the trades involved.

Occupations in this family are:

4714 - [Model Making](#)*

This standard is used to grade all nonsupervisory jobs involved in planning and fabricating complex research and prototype models which are made from a variety of materials and are used in scientific, engineering, developmental, experimental, and test work.

4715 - Exhibits Making/Modeling

This occupation includes jobs involved in constructing, installing, and maintaining full size or scale model visual displays, training devices, or exhibits for educational and informational purposes from a variety of materials such as wood, metal, plastic, rubber, and plaster, using work processes of more than one trade. Some examples are: making scale model streambeds, inlets, overhang areas, dams, spillways, outlet works, etc., by placing and molding materials such as sand, gravel, ground or crushed coal, haydite, and concrete to form features, and shaping and smoothing concrete mixes to finish surfaces; constructing relief map models in plastic, plaster, cardboard, clay, or other materials, using hand carving tools, pantographic routing machine, and orthographic projector; reproducing mockups of ships, aircraft, vehicles, and other objects, etc. The work may include installing and maintaining animation and control devices and mechanisms. This occupation does not include jobs that primarily require technical knowledge of cartography, artistic ability, specialized subject-matter knowledge, or technical knowledge and skill in museum or exhibits techniques.

4716 - Railroad Car Repairing

This occupation includes jobs involved in building, repairing, dismantling, painting, and upholstering passenger and freight cars, using skills in more than one specific trade; and also includes the repair of narrow gauge, cable-drawn dollies.

4717 - Boat Building and Repairing

This occupation includes jobs involved in constructing and repairing aluminum, fiberglass, and plywood hulls of small craft and vessels. The work includes fitting replacement planks, ribs, keelson, deadwood and keel; caulking seams; repairing decks and topsides; replacing canvas and molding; installing deadlights, metal or wood coatings, and marine hardware; and boring shaft logs and constructing cradles to fit hulls. The work requires skill and knowledge of more than one specific trade.

4737 - General Equipment Mechanic

This occupation includes jobs involved in installing, maintaining, and repairing two or more different kinds of machinery or equipment (optical instruments, electronic controls, industrial machinery, electrical equipment, hydraulic systems, electromechanical devices, heavy mobile or automotive equipment, artillery systems and components, communications equipment, etc.). The work requires the use of a variety of trade practices associated with occupations in more than one job group and the performance of the highest level of work in at least two of the trades involved.

4741 - General Equipment Operating

This occupation includes jobs involved in operating a combination of transportation, construction, or other mobile equipment and stationary or portable industrial equipment, machinery, tools, or utility systems. The work requires application of skills and knowledge falling within two (or more) job groups, neither of which predominates for recruitment, promotion, reduction-in-force, pay setting, or other personnel processes.

4742 - [Utility Systems Repairing-Operating*](#)

This standard covers nonsupervisory work that primarily involves repairing and operating one or more utility systems (air conditioning, heating, water, wastewater, etc.). Such work requires the ability to start, stop, and regulate the utility or utilities for optimum efficiency and troubleshoot, maintain, and repair them. Work requires knowledge of user requirements and the locations and functions of all equipment in the system(s) and the repair procedures and specifications.

4745 - Research Laboratory Mechanic

This occupation includes jobs involved in the fabrication, installation, maintenance, operation, modification, and repair of research laboratory facilities or unique types of experimental equipment used in research and development programs. The work requires skill and knowledge of more than one specific trade. Illustrative examples of work includes: (1) fabrication and modification of test stands and rigs for supporting engines or structures during ultra-high-velocity wind tunnel studies; (2) finishing of surfaces to micro specifications for air flow effect studies; and (3) maintaining, modifying, and operating test facilities and related equipment such as altitude simulators to achieve and hold prescribed environments for particular research studies.

4749 - [Maintenance Mechanic](#)*

This standard is used to grade nonsupervisory work involved in the maintenance and repair of grounds, exterior structures, buildings, and related fixtures and utilities, requiring the use of a variety of trade practices associated with occupations such as carpentry, masonry, plumbing, electrical, air conditioning, cement work, painting, and other related trades.

4754 - [Cemetery Caretaking](#)*

This standard is used to grade nonsupervisory work involved in the maintenance upkeep of cemeteries, requiring the use of a variety of trade practices associated with occupations such as motor vehicle operating, gardening, tractor operating, laboring, and fork lift operating. Such work includes digging graves, setting and aligning headstones, erecting mourners' shelters, setting up casket-lowering devices, and maintaining the appearance of the surrounding grounds.

4800 – GENERAL EQUIPMENT MAINTENANCE FAMILY

This job family includes occupations involved in the maintenance or repair of equipment, machines, or instruments that are not coded to other job families because the equipment is not characteristically related to one of the established subject matter areas such as electronics, electrical, industrial, transportation, instruments, engines, aircraft, ordnance, etc., or because the nature of the work calls for limited knowledge/skill in a variety of crafts or trades as they relate to the repair of such equipment, but not a predominate knowledge of any one trade or craft.

Occupations in this family are:

4804 - [Locksmithing](#)*

This standard covers nonsupervisory work involved in repairing, overhauling, modifying, testing, and installing a variety of locking devices typically found on doors, desks, compartments, mobile equipment, safes, vaults, and other secured locations. The work includes the manufacture and duplication of keys and the keying and combining of locking mechanisms. The work requires a knowledge of the construction, operation, and functional characteristics of locking devices, and skill in manufacturing replacement parts, devising or changing combinations, establishing master keying systems, neutralizing lockouts, and a variety of installation and repair processes such as filing, drilling, chiseling, and grinding.

4805 - [Medical Equipment Repairing](#)*

This standard is used to grade nonsupervisory work involved in the installation, maintenance, overhaul, repair, and testing of various medical and dental equipment used in patient diagnosis and treatment and in research laboratories. This work requires a knowledge and application of mechanical, electrical, and electronic principles and circuitry, the ability to determine malfunctions, and the skill to repair and maintain a variety of medical, laboratory, and dental equipment.

4806 - [Office Appliance Repairing](#)*

This standard is used to grade nonsupervisory jobs involved in the maintenance, overhaul, and repair of office machines and appliances such as typewriters, calculating and adding machines, addressing and embossing machines, cash registers, time-stamping, numbering, and checkwriting machines, and duplicating machines such as mimeographs. Work is performed on machines and appliances which incorporate mechanical and electrical features.

4807 - Chemical Equipment Repairing

This occupation includes jobs involved in fabricating component parts, modifying, overhauling, and repairing chemical equipment such as flame throwers, smoke generators, air compressors, and hand and power driven decontaminating devices, impregnating plants, and collective protectors.

4808 - Custodial Equipment Servicing

This occupation includes jobs involved in servicing custodial equipment such as waxing machines, vacuum cleaners, power scrubbing machines, and wall washing machines. Work includes disassembling, making minor repairs, cleaning, oiling, and greasing equipment and replacing worn gears, gaskets, belts, brushes, and roller bearings; and may include building ladders and steps and making push brooms and wash applicators.

4816 - Protective and Safety Equipment Fabricating and Repairing

This occupation includes jobs involved in the assembly, fabrication, modification, and/or repair of a variety of protective and safety equipment, including but not limited to gas masks, hoods, respirators, filters, canisters, collective protectors, boots, detection kits, manually operated decontaminating equipment, safety glasses, and goggles.

4818 - Aircraft Survival Flight Equipment Repairing

This occupation includes jobs involved in disassembling, repairing, testing, troubleshooting, examining, fitting, modifying, maintaining, installing, and determining serviceability of aircraft survival and flight equipment such as helmets, torso harness assemblies, preservers, parachutes, life rafts, chemical and biological protective devices, survival kits, oxygen masks, and anti-G-suits. The work includes operational and circuit checks of emergency signaling and communication devices such as survival radios and beacons. The work requires knowledge of mechanical and electrical repair and maintenance procedures, pyrotechnic and explosive devices, and aircraft egress systems. In addition, the work requires familiarity with aircraft assigned to the unit, detailed knowledge of the operation and characteristics of aircraft survival and flight equipment, and the ability to demonstrate and explain proper usage and operation of the equipment.

4819 - [Bowling Equipment Repairing](#)*

This standard covers nonsupervisory work involved in maintaining and repairing bowling equipment. The work includes making operational and test equipment checks, diagnosing malfunctions, disassembling, repairing and replacing parts, reassembling, adjusting, and making final operational tests. In addition, the work involves conditioning and minor repair of bowling lanes approaches and pins. The work requires a knowledge and application of mechanical and electrical operating principles of the equipment, the ability to determine malfunctions, and the skill to repair and maintain a variety of bowling equipment.

4820 - Vending Machine Repairing

This occupation includes jobs involved in repairing vending machines in wholesale, retail, service, or recreational establishments. The work includes installing, troubleshooting, repairing, and adjusting a variety of components, assemblies, and systems such as ice-making, refrigeration, carbonation, dispensing, electrical, coin-handling, and evaporation systems.

4840 - Tool and Equipment Repairing

This occupation includes jobs involved in maintaining, adjusting, sharpening, and repairing a variety of tools, safety equipment, and portable power equipment such as pipe wrenches, acetylene cutting torches, pneumatic hammers, hydraulic rivet guns, portable pumps, high-pressure airless spray guns, hand-held electric power tools, grinders, drills, cutters, chisels, picks, axes, shovels, mowing equipment, etc., that are issued from shop tool room and equipment areas to production and maintenance workers.

4845 - Orthopedic Appliance Repairing

This occupation includes jobs involved in making and repairing orthopedic appliances such as artificial arms and legs, braces, arch supports, and shoes on prescription of an orthopedic surgeon or other medical officer.

4848 - Mechanical Parts Repairing

This occupation includes jobs involved in assembling, disassembling, adjusting, modifying, repairing, reworking, reconditioning, and testing non-aircraft mechanical parts or components where significant knowledge of component relationships and their functions in the major end item is not required. The work includes riveting, pinning, fitting, connecting, drilling, reaming, and tapping parts (not machining) using hand and power tools.

4850 - [Bearing Reconditioning](#)*

This standard is used to grade nonsupervisory work involved in cleaning, examining, repairing, gauging, rebuilding, lubricating, and preserving and packaging various types of used and new antifriction bearings (e.g., engine and instrument bearings) which are used in aircraft, ships, ground vehicles and equipment, and mechanical/electrical instruments. The work requires knowledge of the procedures and techniques necessary to repair, refurbish, and examine new and used bearings. This includes detailed knowledge and skills in the performance of auditory, visual, tactile, dimensional, and nondestructive examinations necessary to determine extent and feasibility of repairs, acceptability for continued service of used bearings, and the usability of new bearings.

4855 - Domestic Appliance Repairing

This occupation includes jobs that involve installing, maintaining, and repairing major appliances such as electric and gas ranges and stoves, dishwashers, automatic clothes washers, and dryers. The work includes examining units to determine malfunctions, disassembling units, replacing parts and components, reassembling, adjusting, and testing appliances. The work requires knowledge of mechanical, electrical, and plumbing techniques as associated with the functioning of household appliances, and skill in the use of hand and power tools and testing devices.

5000 – PLANT AND ANIMAL WORK FAMILY

This job family includes occupations involved in general or specialized farming operations; gardening, including the general care of grounds, roadways, nurseries, greenhouses, etc; trimming and felling trees; and propagating, caring for, handling, and controlling animals and insects, including pest species.

Occupations in this family are:

5002 - Farming

This occupation includes jobs involved in producing food and feed crops or plants on a general farm or in an agricultural research or experimental setting. The work includes plowing, tilling soil, planting, transplanting, cultivating, irrigating, pruning, spraying, fertilizing, harvesting, and storing farm products. It may also include, in addition to general farm work, caring for, breeding, feeding, and butchering livestock raised for food purposes; building and maintaining fences; operating farm equipment; and maintaining farm buildings.

5003 - [Gardening](#)*

This standard covers nonsupervisory work requiring knowledge of gardening procedures and skill in growing and tending lawns, flowers, shrubs, and trees. The work includes preparing soil for plants, seeding, thinning, transplanting, trimming, pruning, fertilizing, aerating, mulching, spraying, and dusting of grass, ground cover, flowers, shrubs, and trees.

5026 - [Pest Controlling](#)*

This standard is used to grade nonsupervisory work involved in the control and prevention of insect pests (roaches, ants, etc.), vertebrate pests (rodents, birds, etc.), and plant pests such as weeds, plant diseases, and fungi. Pest controllers make visual inspections for pests or evidence of their presence, mix and apply pesticides, and accomplish specialized pest control procedures in accordance with product label directions, handbooks, training texts, and regulatory requirements. The work may be performed in urban, rural, industrial, residential, and institutional settings, both in and around buildings, as well as in open fields, and aquatic, marshy, and forested areas. The work requires knowledge of pest species and the ability to locate and recognize them, skill in the use and handling of toxic materials, and knowledge of effective and environmentally sound preventive measures and techniques of pest control. In accomplishing the work, pest controllers must be able to use both manual and power tools and equipment such as ultra low dosage hydraulic and hand sprayers, subslab injectors, dusters, pneumatic roto-hammers, animal traps, and other devices.

5031 - [Insects Production Working](#)*

This standard is for grading nonsupervisory jobs involved in reproducing, collecting, and caring for insect collections. The work requires practical knowledge of the characteristics of insects and their needs, and skill in observing and handling them.

5034 - Dairy Farming

This occupation includes jobs involved in operating a dairy farm, including caring for, feeding, and breeding the dairy herd; cleaning, washing, and maintaining sanitary conditions throughout the physical plant; sterilizing, adjusting, maintaining, and operating milking machines; preparing feed and feeding the dairy herd; pasteurizing, sterilizing, cooling, weighing, bottling, and storing milk; protecting the animals pertaining to production; and making minor repairs to buildings and equipment.

5035 - Livestock Ranching/Wrangling

This occupation includes jobs involved in operating livestock ranch, including rounding up livestock on ranges for branding, castrating, vaccinating, and marketing; and maintaining fences, traps, and water supply for livestock. It requires riding horses that are not of a gentle nature and using a lariat with accuracy. This occupation also includes jobs involved in gathering stray and trespass livestock from the Federal range and assisting with counting cattle or sheep on the Federal range.

5042 - Tree Trimming and Removing

This occupation includes jobs involved in trimming, topping, and cutting down trees on roadways, grounds, parks, or other public lands, and includes thinning, pruning, trimming, and cutting away dead branches or excess branches from large trees, felling and cutting up trees, and removing stumps. The work requires knowledge of ropes, knots, rigging, and hitches; climbing trees; and operating equipment such as chainsaws, motorized winches, block and tackle, and shredder-grinder machines.

5048 - [Animal Caretaking](#)*

This standard covers nonsupervisory work which involves providing care for mammals, reptiles, birds, and fish. This work requires knowledge of the animals' characteristics, needs, and behavior, and skill in observing, handling, and controlling them.

5200 – MISCELLANEOUS OCCUPATIONS FAMILY

This job family includes occupations that are not covered by the definition of any other job family or that are of such a general or miscellaneous character as to preclude placing them within another job family.

Occupations in this family are:

5205 - Gas and Radiation Detecting

This occupation includes jobs involved in placing, reading, and calibrating various types of instruments and using chemical reagents to make standard tests of tanks, compartments, and other enclosures or areas for indications of radiation, oxygen deficiency, or presence of toxic or explosive gases. It does not include jobs that primarily require technical knowledge of the health, medical, or allied sciences.

5210 - [Rigging](#)*

This standard covers nonsupervisory work involved in the selection, installation and use of cables, ropes, chains, and other weight handling gear to lift, move, and position heavy loads; and the assembly, repair, and installation of standing and running rigging used to support, secure, or operate equipment, machinery, and other items. This work requires a knowledge of rigging practices and weight handling techniques; the ability to plan and select the appropriate gear; and the skill to assemble, repair, and install rigging on a variety of objects.

5220 - [Shipwright](#)*

This standard is used to grade nonsupervisory work involved in the drydocking of marine craft and in the maintenance of marine drydocking equipment.

5221 - Lofting

This occupation includes jobs involved in laying out the lines of a ship and its parts to scale on the mold loft floor and developing and making full-size wooden or paper templates or molds to conform to these layouts.

5235 - Test Range Tracking

This occupation includes jobs involved in tracking missiles, ships, and other objects by operating electronic, photographic, mechanical, and optical tracking equipment to obtain permanent records of tests.

5300 – INDUSTRIAL EQUIPMENT MAINTENANCE FAMILY

This job family includes occupations involved in the general maintenance, installation, and repair of portable and stationary industrial machinery, tools, and equipment such as sewing machines, machine tools, woodworking and metalworking machines, printing equipment, processing equipment, driving machinery, power generating equipment, air conditioning equipment, heating and boiler plant equipment, and other types of machines and equipment used in the production of goods and services.

Occupations in this family are:

5306 - [Air Conditioning Equipment Mechanic*](#)

This standard covers nonsupervisory work that is performed to repair and modify a variety of equipment and systems that achieve regulated climatic conditions. This work requires a knowledge of principles of air conditioning, the ability to recognize and determine the best method for correcting malfunctions and the skill to make repairs to a variety of air conditioning and cooling unit systems.

5309 - [Heating and Boiler Plant Equipment Mechanic*](#)

This standard is for use in grading nonsupervisory jobs involved in installing, maintaining, repairing, troubleshooting, and modifying single and multiple fuel heating and power boilers and associated auxiliary and pollution control equipment, hot air furnaces, and similar equipment systems. The systems and equipment provide steam, heat, or hot water for use in the operation of industrial and institutional facilities and equipment. This work requires knowledge of the principles of combustion, heat transfer, and steam and high temperature hot water generation. It also requires the ability to recognize and determine the best method for correcting malfunctions and the skill to install and repair a variety of heat and power producing systems and support equipment.

5310 - Kitchen/Bakery Equipment Repairing

This occupation includes jobs involved in the installation, repair, overhaul, alteration, rebuild, parts replacement, and adjustment of commercial kitchen and/or bakery equipment such as electric and gas ranges, fryers, steamtables, disposers, dishwashers, meat and bread slicers, bone and meat cutters, potato peelers, bread and dough mixers, doughnut machines, dividers and dough hoppers, dough rounders, flour handling machines, proofers, and other food equipment used in cafeterias, hospitals, etc.

5313 - [Elevator Mechanic](#)*

This standard is to be used for grading nonsupervisory jobs involved in the repair and maintenance of high speed elevator systems and moderate or low speed elevators, dumbwaiters, leveling ramps, and escalators to meet regulatory codes and work requirements. The work requires a knowledge of the construction, function, and maintenance procedures of dispatching or scheduling systems, systems components, driving and hoisting machinery, control mechanisms, guide structures, and car or platform equipment and counterweights. Skill is required in planning and carrying out tasks such as tracing and locating troubles, aligning and balancing the network of controls, adjusting and resetting safety devices, repairing and servicing electromechanical parts and equipment located in the machinery penthouse, shaftway, pit, or on the car or platform.

5317 - Laundry and Dry Cleaning Equipment Repairing

This occupation includes jobs involved in repair work on laundry, dry cleaning, and related equipment.

5318 - Lock and Dam Repairing

This occupation includes jobs involved in the repair of flood control or navigation lock and dam equipment and machinery and the maintenance and repair of buildings, grounds, and structures peculiar to operation of locks and dams.

5323 - Oiling and Greasing

This occupation includes jobs involved in lubricating the moving parts or wearing surfaces of mechanical equipment such as shaft and motor bearings, sprockets, drive chains, gears, and pulleys; forcing grease into bearings with grease guns; filling grease cups; filling or changing oil in machine slumps, using hand, pneumatic, or electric pumps, and changing filters; and cleaning dust, dirt, grease, and other adhering material from machinery and equipment, using rags, brushes, or a compressed air blower. The work includes making minor repairs to equipment.

5330 - Printing Equipment Repairing

This occupation includes jobs involved in the installation, repair, and overhaul of printing equipment such as printing presses, and allied equipment such as lamps, collating equipment, stitching and gathering machines, cutters, folders, bindery presses, and whirlers.

5334 - [Marine Machinery Mechanic](#)*

This standard covers nonsupervisory work involving the dismantling, repairing, relocating, modifying, maintaining, aligning, and installing of a wide variety of marine machinery, equipment, and systems such as propulsion machinery, propellers, rudders, cargo handling machinery, lifeboat davits, anchor handling gear, and missile tube equipment that are located aboard submarines, ships, and other floating craft. The work requires a practical knowledge of the mechanical, hydraulic, and pneumatic systems and components of diverse marine machinery and their attachments. This includes detailed knowledge of the operating characteristics of the involved machinery, equipment, and systems; their functional relationships; the applicable installation and repair procedures, methods, and trade practices; and the unique environmental conditions under which work is performed aboard marine craft, for example, the lack of space between bulkheads and decks and the proximity of one type of machinery to another.

5335 - Wind Tunnel Mechanic

This occupation includes jobs that involve repairing and maintaining wind tunnel facilities, preparing wind tunnels for tests, installing specialized equipment, installing and calibrating instrumentation, and recording data during tunnel operation. The work includes installing and maintaining instrumentation and equipment such as fans and compressors, balance systems, sting suspension system, survey rake equipment, image system, manometer equipment, angle of attack control mechanisms, and unique features such as plates, wedges, screens, and safety nets; adjusting wind tunnels for particular test conditions, for example, by adjusting moveable walls, nozzles, and slot conditions; installing full scale test articles such as aircraft engines; installing schlieren or other photographic equipment; and fabricating manometer boards, pressure tubes, and lines. The work requires a knowledge of the characteristics, operational range, assembly techniques, fits and tolerances, calibration settings, and adjustments of wind tunnel equipment; ability to diagnose and eliminate equipment malfunctions; and comprehension of the relationships among various equipment in providing special tunnel test conditions.

5341 - Industrial Furnace Building and Repairing

This occupation includes jobs involved in constructing, installing, maintaining, and repairing electric and gas furnaces used for melting and refining metals and for annealing and heat treating blanks and dies.

5350 - [Production Machinery Mechanic](#)*

This standard covers nonsupervisory work involving the dismantling, repairing, relocating, modifying, maintaining, aligning, and installing of fixed and semi-fixed production machinery, equipment, and systems such as various standard and numerically controlled (N/C) machine tools, woodworking and metalworking machines used in the production of goods. They are located in such places as industrial plants and machine tool repair shops. The work requires a practical knowledge of the mechanical, hydraulic, and pneumatic systems and components of diverse industrial production machinery and their attachments. This includes detailed knowledge of the operating characteristics of the involved machinery, equipment, and systems, their functional relationships, and the applicable installation and repair procedures, methods, and trade practices.

5352 - [Industrial Equipment Mechanic](#)*

This standard covers nonsupervisory work involving the dismantling, repairing, relocating, modifying, maintaining, aligning, and installing of general nonproduction industrial plant machinery, equipment, and systems such as bridge cranes, towveyor/conveyor and pneumatic tube systems, sandblasting machines, and other industrial plant support machinery and equipment; service, industrial waste and flood control equipment such as compressors, pumps, and valves; and engraving machines, aircraft test block equipment, and fire extinguishing systems. The work requires a practical knowledge of the mechanical, hydraulic, and pneumatic systems and components of diverse industrial plant support machinery and equipment, and other equipment that control industrial waste and provide service to establishments such as industrial plants, machine tool repair shops, and hospitals. This includes detailed knowledge of the operating characteristics of the involved systems and equipment, and of the applicable installation and repair procedures, methods, and trade practices.

5364 - Door Systems Mechanic

This occupation includes jobs involved in installation, adjustment, maintenance, and repair of door operating equipment, including fully automatic and semiautomatic hydraulic, pneumatic, electrical, and spring-loaded mechanical operators and controls. Work includes examination, disassembly, parts condition evaluation, parts replacement, reassembly, and adjustment of door opener and closer devices (excluding locks) requiring knowledge of a variety of types of door operator devices supplied by a number of different manufacturers. The work may also include installation and repair of overhead and sliding/swinging door assemblies, including structural support, framework, and door.

5365 - Physiological Trainer Mechanic

This occupation includes jobs involved in the overhaul, modification, installation, relocation, and testing of physiological training devices including altitude indoctrination flight chambers. Physiological training equipment simulates altitude, weightlessness, acceleration and deceleration, and other conditions or forces of gravity and space. The equipment is used for the purpose of training, testing, and conditioning personnel in the safety, emergency, and counter procedures that are a necessary part of high altitude or space flight.

5378 - [Powered Support Systems Mechanic](#)*

This standard is used to grade nonsupervisory general mechanical work involved in making a variety of repairs to powered ground and similar support equipment used for aircraft ground servicing; missile, aircraft, air control, and radar installations' powered support; field combat support; engineering and construction project support; and general utilities, including standby and emergency power generating systems. The systems repaired are made up of combinations of components such as: gasoline, diesel, multi-fuel, or turbine engines; electrical systems; gears; combustion powered generators, compressors, and similar power supply units including those with heating and cooling applications; and the electric, hydraulic, or pneumatic systems which are part of the equipment repaired.

5384 - Gasdynamic Facility Installing and Repairing

This occupation includes jobs involving the installation of systems, equipment, and components comprising a gasdynamic facility; diagnosis of facility malfunctions; and teardown, repair, replacement, and servicing of integrated equipment and components; monitoring and adjustment of systems and equipment to achieve prescribed test conditions, and recording of data observed during tests; and fabrication of parts, fittings, components, test articles, and/or measuring instruments, using machine tools. Facilities are characterized by the integrated use of extreme high temperature heating, high pressure, and/or high vacuum techniques to create fluid dynamic flow of high enthalpy gases for experimental simulation of the flight of hypersonic vehicles. Associated equipment and components include such items as gas fired ceramic storage heaters; high voltage electric arc heaters; mechanical, oil diffusion, and cryogenic vacuum and/or pressure pumps; piping network for coolants, propane gas, nitrogen, hydrogen, carbon dioxide, oxygen, argon, and/or compressed air; electric, hydraulic, and pneumatic valves and control devices; and synchronous and wound rotor motors. Facilities are typically constructed on a fail-safe basis utilizing component and system interlocks.

5400 – INDUSTRIAL EQUIPMENT OPERATION FAMILY

This job family includes occupations involved in the operation of portable and stationary industrial equipment, tools, and machines to generate and distribute utilities such as electricity, steam, and gas for heat or power; treat and distribute water; collect, treat, and dispose of waste; open and close bridges, locks, and dams; lift and move workers, materials, and equipment; manufacture and process materials and products, etc.

Occupations in this family are:

5402 - [Boiler Plant Operating](#)*

This standard is for use in grading nonsupervisory jobs concerned primarily with the operation and operational maintenance of single and multiple fuel water or fire tube boilers and associated auxiliary and pollution control equipment. These boilers operate at various pressures and temperatures in automatic or manual modes to produce steam or high temperature hot water to provide heat for buildings, to operate industrial and institutional facilities and equipment, and to generate electricity.

5403 - Incinerator Operating

This occupation includes jobs involved in the operation of a wood-fire, gas, or oil burning incinerator to burn garbage and trash.

5406 - [Utility Systems Operating*](#)

This standard covers nonsupervisory work concerned primarily with operating two or more utility systems such as boiler plants, air conditioning, wastewater treatment, water treatment, and natural gas distribution systems for large buildings or small complexes, on a continuing basis. Operators must be familiar with and have the abilities to adjust and regulate a variety of automatic or manually controlled auxiliary equipment to insure maximum operating efficiency of the systems. This standard covers those jobs that entail operation of two or more utility systems, evaluated at the same grade level, when no single skill or knowledge of a single utility is predominant for recruitment, promotion, reduction-in-force, paysetting, and other personnel processes.

5407 - [Electric Power Controlling*](#)

This standard covers nonsupervisory work involved in controlling the generation or distribution of electric power. The jobs are located at power generating plants, power distribution centers, and substations. This work requires the ability to anticipate load changes due to such items as work schedules and weather in order to engage or cut out power sources, to interpret wiring diagrams for a complete primary power system in order to plan routings and locate failures, and to determine the need for and, if warranted, follow emergency procedures in order to insure safety and provide continuous electric service. Employees know how to operate electric power generating and controlling equipment such as high voltage generators, rotary converters, transformers, motor-generators, and remotely operated switches and circuit breakers.

5408 - [Wastewater Treatment Plant Operating*](#)

This standard covers nonsupervisory work involved in the operation of wastewater treatment facilities and plants to treat and dispose of waterborne domestic waste or industrial wastewater.

5409 - [Water Treatment Plant Operating*](#)

This standard covers nonsupervisory work involved in the operation of water treatment facilities and plants to treat or pump water for domestic or industrial use.

5413 - [Fuel Distribution System Operating*](#)

This standard covers nonsupervisory work involved in working at one or several work stations of a fuel distribution system, or operating a complete system, to receive, store, transfer, and issue petroleum and other products such as liquid oxygen, liquid nitrogen, and anhydrous ammonia.

5415 - [Air Conditioning Equipment Operating](#)*

This standard covers nonsupervisory work concerned primarily with operating air-conditioning systems for large buildings or complexes of buildings. Also included are jobs that involve the operation and regulation of cold storage and specialized climate simulation facilities. The work requires the ability to adjust equipment to maintain desired temperatures and humidity, start, operate, and stop the air handling equipment and centrifugal compressors or absorbers, and detect and diagnose malfunctions in equipment. Operators must know the purposes and locations of all equipment in the systems and the auxiliary equipment such as cooling towers, water pumps, air compressors, liquid circulating pumps, and fans.

5419 - Stationary-Engine Operating

This occupation includes jobs involved in operating and maintaining stationary diesel and gas engines and mechanical equipment such as compressors, generators, motors, turbines, steam engines, fans, and pumps used in buildings and industrial processes. The work includes observing meters and gauges to determine operating condition of equipment, and making adjustments or minor repairs necessary to insure efficient performance.

5423 - [Sandblasting](#)*

This standard is used to grade nonsupervisory jobs involved in setting up, operating, and performing preventive maintenance on complete stationary and portable sandblasting equipment and machines used for cleaning metal and nonmetal surfaces. The work requires a knowledge of the operating and preventive maintenance features of sandblasting equipment and machines, cleaning characteristics of metals and nonmetals, cutting or abrasive quality of a wide variety of sand-like abrasives, and the optimum air pressures with specific abrasives to obtain the desired finish without damage to workpieces. The work requires the skill to position and hold workpieces and blasting nozzles, and carry out blasting operations and procedures in a safe manner.

5424 - Weighing Machine Operating

The occupation includes jobs involved in the operation and maintenance of weighing scales to weigh cars, products, or materials in or out of an installation (e.g., to weigh coinage metals, including bullion, ingots, blanks, planchets, coins, medals, clippings, and other residue, using troy weights, in minting operations; weigh mail and parcel post items in postal operations; etc.).

5426 - [Lock and Dam Operating](#)*

This standard is used for grading nonsupervisory jobs which involve primarily the operation of navigation lock and dam equipment and machinery to allow river traffic to pass from one level to another because of the differences in elevation between the bodies of water, and to maintain required pool levels.

5427 - Chemical Plant Operating

This occupation includes jobs involved in operating and maintaining chemical plant equipment utilized in the development, manufacture, and processing of chemicals and chemical products or the development of chemical and related processes. Typically, such equipment includes reactors, filters, compressors, pumps, valves, furnaces, fractionating columns, generators, centrifuges, meters, stripping units, blenders, mixers, filling machines, evaporators, distillation columns, and other similar equipment. Work includes controlling temperatures, pressures, flows, and reaction time by reading and recording data, adjusting temperature, flow rate, pressure, and similar gauges and instruments, and performing routine chemical analyses and calculations.

5433 - Gas Generating Plant Operating

This occupation includes jobs involved in the operation and operational maintenance of plants manufacturing compressed and liquefied gases (e.g., oxygen, nitrogen, carbon dioxide, acetylene, helium) to supply storage tanks, pipelines, or gas charging manifolds. The work includes operating equipment such as engines, compressors, generators, motors, pumps, fractionating columns, purifying towers, and heat exchangers; observing gauges and controlling temperatures, pressures, flow, etc.; and testing the end product for purity.

5435 - Carton/Bag Making Machine Operating

This occupation includes jobs involved in setting up, adjusting, and operating production machines to cut, score, slit, fold, crease, slot, stitch, glue, or seal corrugated cardboard, paper, plastic sheet, cellophane, metal foil, or other similar materials to make cartons, carton spacers, liners, or bags for packing items.

5438 - [Elevator Operating](#)*

This standard is to be used to grade all nonsupervisory jobs in which the primary duty is the running of freight or passenger elevators. The work includes opening and closing elevator gates and doors, working elevator controls, loading and unloading the elevator, giving information and directions to passengers such as on the locations of offices, and reporting problems in running the elevator.

5439 - Testing Equipment Operating

This occupation includes jobs involved in testing materials such as metals or plastics and/or products such as vehicle parts for physical characteristics or defects, using powered or manually operated test equipment such as hardness and shock testers, vibration equipment, temperature-humidity chambers, acceleration test machines, pressure test wells, hydraulic tests cabinets, soil compaction machines, mechanical sieve shakers, soil constants apparatus, water retentivity apparatus, cement testing apparatus (flow table, needles, autoclave, and other devices), electrical test equipment, frequency test instruments, optical comparators, and profilometers. The work includes setting up and operating test equipment, using test apparatus to apply tests to materials or products, recording readings, observing and recording established reactions, and classifying according to defined categories. This occupation does not include jobs that primarily require: (1) knowledge/skill in the work processes involved in producing or repairing the materials or products tested; or (2) technical knowledge of engineering or the physical, biological, or other sciences.

5440 - Packaging Machine Operating

This occupation includes jobs involved in the setup, adjustment, operation, and operational maintenance of automatic machines to fill, mark, fasten, seal, pack, or wrap tubes, cylinders, containers, bags, cartons, or packages of items such as coins, hardware, or other articles.

5446 - Textile Equipment Operating

This occupation includes jobs involved in the operation and operational maintenance of textile processing and/or fabricating equipment and machinery used in one more major operations such as cleaning and ginning operations involved in producing cotton; opening, picking, carding, combing, and drafting operations involved in producing various hank roving for use in yarns, twines, and cords; wrapping, slashing, and weaving operations involved in developing fabrics; sponging, scouring, carbonizing, fulling, dyeing, and other chemical and physical treatment operations involved in finishing fabrics; and spreading, die-cutting, pinking, and other similar operations involved in preparing fabric for sewing.

5455 - Paper Pulping Machine Operating

This occupation includes jobs involved in operating and servicing an industrial-type paper pulping machine to reduce classified documents to pulp.

5478 - Portable Equipment Operating

This occupation includes jobs involved in the operation of portable (including mounted or towed) construction equipment and power tools such as pneumatic tools, drilling machines, winches, hoists, lifts, compressors, engines, pumps, generators, and other similar equipment powered by a vehicle engine with a power takeoff or by an independent engine or generator.

5479 - Dredging Equipment Operating

This occupation includes jobs involved in operating drags and dumping gates aboard a seagoing hopper dredge or operating dredging equipment on a hydraulic pipeline dredge (operating levers and/or winches to move the dredge and make required cuts) to dredge mud, silt, and sand from rivers and harbors.

5484 - Counting Machine Operating

This occupation includes jobs involved in setting up, operating, and making minor repairs to automatic machines that count coins in bulk quantities and make up rolls or bags containing specific amounts. The work includes visually examining medals, proof coins, and planchets and removing outdated, counterfeit, mutilated, and foreign pieces.

5485 - Aircraft Weight and Balance Operating

This occupation includes jobs that involve examining single and multiple engine aircraft for weight and balance purposes, weighing the aircraft, computing weight and balance factors, and releasing the aircraft for flight with respect to weight and balance. This work requires knowledge of the general aircraft structure and the location of various aircraft components, operation of aircraft weighing scales, procedures for weighing each type of aircraft, and methods of computing weight and balance data.

5700 – TRANSPORTATION/MOBILE EQUIPMENT OPERATION FAMILY

This job family includes occupations involved in the operation and operational maintenance of self-propelled transportation and other mobile equipment (except aircraft) used to move materials or passengers, including motor vehicles, engineering and construction equipment, tractors, etc., some of which may be equipped with power takeoff and controls to operate special purpose equipment; ocean-going and inland waterway vessels, harbor craft, and floating plants; and trains, locomotives, and train cars. *Vessel jobs that are excluded from the Federal Wage by 5 U.S.C. 5342 are listed in the Appendix.*

Occupations in this family are:

5703 - [Motor Vehicle Operating](#)*

This standard covers nonsupervisory work involved in the operation of gasoline, diesel, or electric powered wheeled vehicles to haul cargo and fuel, transport passengers, or to tow or recover equipment. The vehicles are driven in restricted traffic environments on Government installations, over public roads and highways, or under cross-country conditions. Also included are motor vehicles which have special-purpose or auxiliary devices where a knowledge of such devices does not exceed the level of knowledge and skill required to operate the vehicle safely.

5704 - [Fork Lift Operating](#)*

This standard is to be used for grading nonsupervisory jobs which involve the operation of electric, diesel, or gasoline powered fork lift trucks to move, stack and unstack, and load and unload materials in and about warehouses, storage areas, loading docks, and on and off vehicles, etc.

5705 - [Tractor Operating](#)*

This standard is for use in grading nonsupervisory work involved in operating wheel-mounted tractors and towed or attached equipment. The work performed typically includes transporting materials and equipment, towing aircraft, digging, loading, planting, spraying, fertilizing, harvesting, clearing, or mowing. Examples of the towed and attached equipment include carts, sweepers, trailers, towbars, plows, brush hogs, planters, mowers, combines, spreaders, sprayers, backhoes, and front-end loading devices.

5706 - Road Sweeper Operating

This occupation includes jobs involved in the operation of a road sweeping vehicle on which is mounted heavy brushes for sweeping roads.

5716 - [Engineering Equipment Operating](#)*

This standard is to be used for grading nonsupervisory jobs which involve the operation of gasoline- or diesel-powered engineering and construction equipment with wheeled or crawler type traction. Jobs covered are those involving the operation of equipment such as graders, tractors with bulldozer or angledozer blades, front-end loaders, backhoes, trench diggers, and large industrial tractors with pan or scraper attachments. This equipment is used to perform such functions as cutting, moving, digging, grading, and rolling earth, sand, stone, and other materials, and to maintain ditches, road shoulders and beds, and firelines.

5725 - [Crane Operating](#)*

This standard covers nonsupervisory work involved in the operation of cranes to lift, transport, and position materials; to dig and move earth or other materials; to drive pilings; or to destroy obsolete structures. Cranes use attachments such as hooks, clamshell buckets, orangepeel buckets, dragline buckets, magnets, pile-drivers, demolition hammers, and other special material handling devices.

5729 - [Drill Rig Operating](#)*

This standard covers nonsupervisory work involved in moving in, setting up, operating, maintaining, and moving out heavy mobile drill rigs and associated tools and equipment which are used for geologic drilling at field locations. The work requires knowledge of the operating characteristics of core, churn, calyx, auger, or probe type drill rigs and tools; and skill in manipulating controls to adjust to any drilling condition.

5736 - Braking-Switching and Conducting*

This standard is used to grade the nonsupervisory work involved in coordinating (onsite) the movement, make up, or break up of trains, locomotives, and train cars. The work requires knowledge of the layout of a railroad track system; knowledge of and ability to follow numerous safety, signaling, switching, track use, train car, and train movement procedures, restrictions, and requirements; and knowledge of the movement and braking characteristics of locomotives, train cars, and various sizes of trains under a variety of weather, visibility, speed, cargo, track, and other operating conditions. Some work covered also requires ability to plan efficient work sequences in making up, breaking up, and overseeing (onsite the safe movement of trains; ability to coordinate the work of a train crew, and the ability to enforce numerous operational and safety procedures and requirements.

5737 - Locomotive Engineering*

This standard is used to grade the nonsupervisory work of operating all types of locomotives and trains to transport supplies, equipment, conveyances, and personnel. This work requires skill in operating locomotives under various conditions, and knowledge of the layout of a track system and the safety, signaling, and track use requirements or restrictions in various areas of operation.

5738 - Railroad Maintenance Vehicle Operating*

This standard is used to grade work involved in the operation of self-propelled, flanged wheel railroad maintenance vehicles and equipment to lay, remove, repair, elevate, align, and maintain ties, rails, ballast, and other parts of the railway, and to transport maintenance supplies, tools, equipment, and personnel. This work requires the ability to safely operate one or more flanged wheel railroad maintenance vehicles, knowledge of railway maintenance and repair methods and requirements, and knowledge of track system layout, operating rules, and maintenance procedures.

5767 - Airfield Clearing Equipment Operating

This occupation includes jobs involved in operating airfield clearing equipment, including snow removal equipment and vacuum type sweepers (not conventional snow removal equipment or sweepers used primarily on streets, parking areas, ramps, etc.). This equipment typically consists of gasoline or diesel powered units equipped with specially designed attachments used separately or simultaneously in clearing runways, taxiways, and aprons of snow or foreign objects where conventional equipment and techniques are ineffective. Representative of such equipment are Sno-Gos, Rollovers, Vacuum Sweepers, and other vehicles that include comparable auxiliary equipment.

5782 - Ship Operating

This occupation includes jobs involved in operating ships, tugboats, seagoing dredges, fishing vessels, or other similar vessels, often greater than 55 meters (180 feet) in length, engaged in transporting passengers and freight, towing or assisting the maneuvering of large vessels, making hydrographic and oceanographic surveys, drilling or probing subaqueous holes, conducting fishing operations, etc. The work includes navigating the ship, standing watch, setting and maintaining speed and course, using navigational aids and devices to compute position, and coordinating the activities of members of the crew. The work requires knowledge of the handling and operation of large vessels offshore or in the Great Lakes and/or large vessels under tow.

5784 - Riverboat Operating

This occupation includes jobs involved in operating riverboats, towboats, with tows, self-propelled dredges and other similar craft, often larger than 55 meters (180 feet) in length engaged in transporting passengers and freight, moving non-self-propelled vessels and floating plant, making hydrographic surveys, dredging and maintaining waterways, etc. The work includes steering the boat, standing watch, setting and maintaining speed and course, determining position using navigational aids, and coordinating activities of members of the crew. The work requires knowledge of river currents, stages, obstructions, navigation locks and dams, and the handling and operation of large vessels or tows on rivers.

5786 - [Small Craft Operating](#)*

This standard covers nonsupervisory work involved in the operation of small oar, sail or mechanically propelled craft, generally under 55 meters (180 feet) in length, to transport personnel and supplies, control harbor pollution, remove aquatic plants, conduct hydrographic surveys of rivers and harbors, or carry out similar functions. The operations are characterized by regular daily tours of duty followed by employees' physical departure from the boat rather than watch and watch, which is characteristic of maritime industry practices. This work requires the ability to steer and navigate the small craft, operate the engines and, in some assignments, to make operating repairs to the engines and the boat itself.

5788 - Deckhand

This occupation includes jobs that involve doing general maintenance work; repairing and painting decks, hulls, superstructure and interior spaces of vessels; operating cargo gear and deck machinery; rigging booms; handling lines during docking, moving and towing operations; mending lines and canvas; standing lookout, security and wheel watches; connecting and disconnecting hoses and pipelines; operating fishing gear; and similar work.

5800 – TRANSPORTATION/MOBILE EQUIPMENT MAINTENANCE FAMILY

This job family includes occupations involved in repairing, adjusting, and maintaining self-propelled transportation and other mobile equipment (except aircraft), including any special purpose features with which they may be equipped.

Occupations in this family are:

5803 - [Heavy Mobile Equipment Mechanic](#)*

This standard covers nonsupervisory work involved in the maintenance, repair, and modification of heavy duty vehicles and mobile equipment which have utility systems or special hydraulic, pneumatic, mechanical, electrical, or electronic systems, features, or controls designed for such purposes as construction, combat, earth moving, ship loading, firefighting, and comparable industrial or special applications. Examples of heavy duty equipment covered by this series include bulldozers, road graders, crawler tractors, power shovels, locomotives, combat tanks, cranes, large missile transporters, and fire trucks. The repair of major systems (such as diesel, gasoline, multifuel, and turbine engines; automatic, standard, and cross-drive transmissions; heavy duty drive line systems; and hydraulic, electrical, and mechanical utility systems) is included, whether accomplished as part of or apart from repair of the total piece of heavy mobile equipment involved. The work requires knowledge of how heavy duty machinery, engines, parts, and systems work; ability to detect faulty items, determine causes of malfunction, and determine best repair methods; and skill to assemble, disassemble, repair, or modify components and systems.

5806 - [Mobile Equipment Servicing](#)*

This standard is used to grade nonsupervisory work involved in servicing automotive and mobile equipment such as automobiles, trucks, buses, ambulances, forklifts, and bulldozers. Typical service includes dispensing gasoline, checking fluid levels and tire pressures, inflating tires, washing cars, lubricating vehicles, installing simple accessory items, and changing and repairing tires and tubes.

5823 - [Automotive Mechanic](#)*

This standard is used to grade all nonsupervisory jobs involved in the maintenance, repair, and overhaul of combustion-powered automotive vehicles, over-the-road trucks, and comparable vehicles, such as passenger cars, pickup trucks, buses, semitrailer truck tractors, warehouse tractors, farm tractors, forklifts, motorcycles, light combat vehicles such as jeeps and trucks, and other vehicles with similar characteristics, including their gasoline and diesel engines and other mechanical, hydraulic, electrical, and electronically controlled systems.

5876 - [Electromotive Equipment Mechanic](#)

This occupation includes jobs involved in overhaul and repair of electric-powered material handling and other self-propelled mobile equipment such as electric-powered fork lifts, cranes, platform lifts, and electric tugs, including magnetically controlled types. The work requires the application of general mechanical skills and knowledge together with a specialized knowledge of electric motors and circuitry from which such equipment derives motive power.

6500 – AMMUNITION, EXPLOSIVES, AND TOXIC MATERIALS WORK FAMILY

This job family includes occupations involved in the manufacturing, assembling, disassembling, renovating, loading, deactivating, modifying, destroying, testing, handling, placing, and discharging of ammunition, propellants, chemicals and toxic materials, and other conventional and special munitions and explosives.

Occupations in this family are:

6502 - [Explosives Operating](#)*

This standard covers nonsupervisory work involved in the manufacture of powder, propellant grains, solid or liquid explosives, and mixtures for flares or signals, and the manufacture, assembly, disassembly, renovation, modification, and deactivation of ammunition, explosives, or chemical or toxic filled munitions. Included are jobs which involve operation of equipment, jigs, or machines that were designed or modified to perform particular munitions operations. This work requires a knowledge of explosives and explosives safety practices, the ability to operate equipment that is designed or modified for munitions operations, and the skill to safely perform operations with explosives.

6505 - [Munitions Destroying](#)*

This standard covers nonsupervisory work involved in the destruction of ammunition, explosives, propellants, and toxic munitions. This work requires a knowledge of demolition procedures, the ability to recognize various types of bulk explosives, and the skill to place munitions and initiating charges.

6511 - [Missile/Toxic Materials Handling](#)

This occupation includes jobs involved in readying and handling, for storage, transfer or shipment, of explosive or toxic munitions such as poison gases, radioactive materials, or solid propellant ballistic missiles that require strictly controlled temperature or humidity, limitation of shock and vibration, or frequent checks to prevent physical or chemical changes that would make them unsafe or prevent proper operations. This work requires knowledge of the explosive or toxic munitions materials and of mechanical details of containers and controls. Ready and handling include mechanical assembly and disassembly of munitions and containers, such as checking and replacing environmental controls, attaching pads, positioning pads precisely and tightening to close tolerance; frequent checking of condition for replacement or repair of containers or components; and often, careful transporting in order not to exceed critical acceleration, vibration, temperature, or similar characteristic limitations.

6517 - [Explosives Test Operating](#)*

This standard covers nonsupervisory work involved in the functional testing of explosives, pyrotechnics, propellant grains, and ammunition to discover characteristics such as dispersion patterns, velocity, and range. This requires knowledge of explosives, explosive devices, and environmental conditioning and functional testing practices.

6600 – ARMAMENT WORK FAMILY

This job family includes occupations involved in the installation, repair, rebuilding, adjustment, modification, and testing of small arms and artillery weapons and allied accessories. Artillery includes, but is not limited to, field artillery, antitank artillery, anti-aircraft weapons, aircraft and shipboard weapons, recoilless rifles, rocket launchers, mortars, cannons, and allied accessories. Small arms includes, but is not limited to, rifles, carbines, pistols, revolvers, helmets, body armor, shoulder-type rocket launchers, machine guns, and automatic rifles.

Occupations in this family are:

6605 - [Artillery Repairing](#)*

This standard covers nonsupervisory work involved in repairing, rebuilding, and modifying mounted, towed, motorized, or ship-board artillery. This includes work on major components such as gun tubes, mounts, turrets, and carriages. This work requires detailed knowledge of mechanical, and a practical working knowledge of hydraulic, electrical, and pneumatic systems; the ability to recognize improper operation, locate the cause and determine the best method for correcting defects; and the skill to fit and adjust parts and assemblies.

6606 - Artillery Testing

This occupation includes jobs involved in testing of guns such as light field artillery, 20-mm air cannons, tank guns, and small caliber guns used for testing armor plate, by emplacing, loading, and firing guns to determine mechanical characteristics and ballistic properties. Also included is the testing of heavy guns and howitzers, such as field guns from 105-mm to 240-mm howitzers, anti-aircraft guns from 90-mm to 120-mm, and tank mounts from 90-mm to 105-mm.

6610 - [Small Arms Repairing](#)*

This standard covers nonsupervisory work involved in repairing, rebuilding, and modifying small arms which includes such weapons as machine guns, mortars, rocket launchers, recoilless rifles, and portable flame throwers. The work requires a knowledge of weapons mechanical systems, the ability to recognize and determine the best method to correct malfunctions, and the skill to fit and adjust mechanical parts and assemblies.

6641 - [Ordnance Equipment Mechanic](#)*

This standard covers nonsupervisory work involved in maintaining and overhauling major items and assemblies of ordnance systems and equipment. The work requires the knowledge and application of mechanical and electrical principles and the skill to perform intricate repair and adjustment of hydraulic and pneumatic components and devices. The work also requires skill in such processes as troubleshooting, repairing, modifying, rebuilding, assembling, testing, and installing a variety of equipment such as missiles, torpedoes, mines, depth charges, and associated testing equipment and transporting, handling, erecting, and launching devices.

6652 - [Aircraft Ordnance Systems Mechanic*](#)

This standard covers nonsupervisory work involved in trouble-shooting, repair, installation, modification, and operational and functional testing and adjustment of aircraft ordnance systems, equipment, and components. These systems and components involve electrical, mechanical, pneumatic, and hydraulic principles of operation, for example, ejection seats, decoys, canopies, module ejection equipment, pylons, and pressure regulators. The work requires a knowledge of aircraft ordnance systems, the ability to recognize and determine the best method to correct malfunctions, and the ability to use test equipment and measuring devices common to the occupation.

6656 - [Special Weapons Systems Mechanic](#)

This occupation includes jobs that involve examining, disassembling, repairing, modifying, assembling, calibrating, and testing various types of advanced weapons systems and components; reconditioning and repairing weapon skin sections such as airframes and fins; and maintaining special handling equipment and containers. Weapon components include such items as motor generators, hydrostats, differential switches, accelerometer gauges, control boxes, fusing components, batteries, radar, etc. The work requires knowledge of pneumatic, hydraulic, mechanical, electrical, and electronic systems and circuitry, and of radioactive, explosive, electrical, and other hazards unique to advanced weapons.

6900 – WAREHOUSING AND STOCK HANDLING FAMILY

This job family includes occupations involved in physically receiving, storing, handling, and issuing supplies, materials, and equipment; handling, marking, and displaying goods for selection by customers; identifying and condition classifying materials and equipment; and routing and expediting movement of parts, supplies, and materials in production and repair facilities.

Occupations in this family are:

6903 - [Coal Handling](#)

This occupation includes jobs involved in the physical receipt, storage, and issue of coal. Work includes directing the unloading of coal in the coal yard or in bins, verifying quantities of coal received, turning coal, directing the issuance and movement of coal to prescribed consuming locations, and coal sampling.

6904 - [Tools and Parts Attending*](#)

This standard covers nonsupervisory work which involves receiving, storing, issuing, signing out, and checking in various tools, equipment, shop supplies, and repair parts to and from such using maintenance, construction, and shop personnel as machinists, carpenters, and automotive and aircraft mechanics. Such work requires knowledge of the kinds of tools, parts, and equipment in stock and how to locate them, and an ability to identify and issue specific items requested by using personnel.

6907 - [Materials Handling](#)*

This standard covers nonsupervisory work involved in receiving, storing, and assembling for issue, shipment, and distribution, a wide variety of bin and bulk supplies, materials, equipment, and commodities using mechanized, automated, and manual material moving equipment, devices, and systems. The work requires general knowledge of the methods used in processing, handling, and storing of materials and equipment through a supply facility; the ability to log receipt, storage, and shipment data; and the ability to use manual or mechanized equipment to move, stack, bin, and position materials and equipment. The work also requires the ability to organize, arrange, and remove stock in storage areas in accordance with established procedures to prevent damage, deterioration, and loss. Most work requires the incidental or regular use of fork lifts and motor vehicles.

6910 - [Materials Expediting](#)*

This standard is used to grade nonsupervisory jobs involved in routing and expediting the movement of parts, end items, supplies, and material within production and repair facilities to meet priority needs. This work requires knowledge of material characteristics, uses, condition, industrial production shop procedures, shop layout, and internal supply sources.

6912 - [Materials Examining and Identifying](#)*

This standard is used to grade nonsupervisory work involved in the identification, examination, classification, acceptance, and disposition of materials and equipment. Materials examiners and identifiers determine physical condition, adherence to product specifications, and equipment defects, utilizing shipping documents, contracts, catalogs, drawings, and related documents. The work setting is usually within a warehouse facility, primarily in a receiving or shipping area, or in a property reutilization and disposal facility.

6913 - [Hazardous Waste Disposing](#)*

This standard covers nonsupervisory work involved in identifying, collecting, processing, stabilizing, neutralizing, consolidating, and/or separating hazardous waste in preparation for disposal. The work requires knowledge of hazardous waste identification techniques and safe processing and packaging procedures. The work also requires an understanding and practical application of environmental rules and practices regarding the full range of hazardous waste material treatment and disposal procedures. Work within this occupation typically requires basic skill in the use of computers to access information systems to retrieve data pertaining to temporary storage, and processing information regarding hazardous wastes. Most work requires regular or incidental use of motor vehicles, fork lifts, and in some cases, warehouse tugs. In some work situations, hazardous waste disposers at industrial facilities may be required to participate on hazardous waste response teams to control accidental spills, overflows, and other emergency situations that may arise involving both hazardous wastes and materials.

6914 - [Store Working](#)*

This standard covers nonsupervisory work involved in handling, marking, and preparing displays of merchandise or other items for selection by customers. This requires skill in observing, counting, and maintaining stock levels, and in matching names, codes, numbers, or sizes of items on shelves or counters to lists on which these items are shown. Workers acquire and use a knowledge of the various kinds, sizes, and locations of stocked items, and how they should be displayed. They also use knowledge of the general characteristics of items handled in recognizing obvious poor or unacceptable quality or in identifying items by type, kind, or variety for pricing.

6941 - Bulk Money Handling

This occupation includes jobs involved in receiving, storing, maintaining custody of, and issuing bulk currency, securities, coin items (new domestic, foreign, and proof coins, and current and mutilated coins), and gold and silver bullion; controlling storage vaults; and preparing large orders of items for shipment.

6968 - Aircraft Freight Loading

This occupation includes jobs involved in loading, placing, securing, and unloading air cargo in the air terminal and on the aircraft when such work includes responsibility for maintaining the proper weight and balance of the loaded aircraft, positioning cargo based on destination and priority of shipment, and insuring that incompatible cargoes are not loaded in the same aircraft.

7000 – PACKING AND PROCESSING FAMILY

This job family includes occupations involved in determining the measures required to protect items against damage during movement or storage; selecting proper method of packing, including type and size of container; cleaning, drying, and applying preservatives to materials, parts, or mechanical equipment; and packing equipment, parts, and materials.

Occupations in this family are:

7002 - [Packing](#)*

This standard covers nonsupervisory work involved in preserving and/or packing and repacking equipment, parts, tools, materials, and other items in various types of containers to protect them from damage, deterioration, or corrosion during shipment and storage. The work includes preserving and packing specialized devices, delicate equipment, munitions, weapons, and combustible and toxic materials and substances. The work requires knowledge of various protective devices and cushioning materials, a wide range of preserving and packing procedures and techniques, and of regulatory and safety requirements that apply to preserving, packing, labeling, storing, and shipping standard and nonstandard materials, devices, etc. Most work requires the incidental use of a variety of trade practices associated with related or support occupations such as forklift operating, wood working, mechanical equipment assembly, and materials handling.

7006 - [Preservation Servicing](#)*

This standard is used to grade the nonsupervisory work involved in preserving mechanical and metal items, and large, powered mechanical systems, vehicles, craft, and weapons against corrosion, deterioration, and similar damage, and performing related disassembly and assembly. Fighter planes, combat tanks, automobiles, ships, trucks, engineering equipment, engines, transmissions, weapons and combustion powered generators are examples of the mechanical equipment processed. The work covered typically requires:

- Knowledge of various types and uses of preservatives which protect metal and material against corrosion and deterioration;
- Skill in applying preservatives using specialized equipment and processes;
- Ability to partly disassemble and assemble a variety of mechanical systems or equipment;
- Ability to learn and precisely follow a variety of detailed processing instructions, and, at some levels, use judgment in planning work sequences and selecting processes.

7009 - [Equipment Cleaning](#)*

This standard is to be used to grade nonsupervisory work involved in the cleaning of such equipment as aircraft, ships, engines, electronic equipment, storage and fuel tanks, immersion vats, grease pits, sumps, and traps. This work is accomplished using ultrasonic vibration methods, automated and non-automated immersion tanks, steam cleaners, brushes, buffers, scrapers, sanders, grinders, files, and any other necessary tools or processes to remove paint, sludge, grease, carbon, oil, corrosion, rust, and radioactive contaminants. The final product must meet specified finish requirements such as smoothness, brightness, thickness, and cleanliness.

7010 - [Parachute Packing](#)*

This standard is used to grade nonsupervisory work that involves unpacking, cleaning, examining, assembling, and packing cargo, drag (deceleration), special weapons, personnel, experimental, and other similar types of parachutes and parachute systems. The work requires a knowledge of parachute packing procedures.

7300 – LAUNDRY, DRY CLEANING, AND PRESSING FAMILY

This job family includes occupations involved in receiving, sorting, washing, drying, dry cleaning, dyeing, pressing, and preparing for delivery clothes, linens, and other articles requiring laundering, dry cleaning, or pressing.

Occupations in this family are:

7304 - [Laundry Working](#)*

This standard is used to grade nonsupervisory jobs in which the primary work involves receiving, sorting, and marking soiled linen and apparel; processing flatwork and roughdry items; assembling and issuing clean laundry. This includes classifying and marking; shaking out wet laundry; feeding into the flatwork ironer; catching, folding, and stacking ironed flatwork; folding roughdry laundry; sorting by identification number; wrapping bundles. Laundry jobs involving primary skills of loading, unloading, and operating washers, extractors, and tumblers, or pressing shirts and garments, are graded by standards for those jobs.

7305 - [Laundry Machine Operating](#)*

This standard is used to grade nonsupervisory jobs when the primary work involves operation of commercial-type laundry washers, extractors, tumblers, or conditioners. This includes loading, unloading, and operating controls of machines to wash, dye, starch, roughdry, or condition items for pressing.

7306 - [Pressing](#)*

This standard is used to grade nonsupervisory jobs in which the primary work involves shaping and pressing of laundered or drycleaned garments and articles by operation of steam press machines and hand irons.

7400 – FOOD PREPARATION AND SERVING FAMILY

This job family includes occupations involved in the preparation and serving of food.

Occupations in this family are:

7402 - [Baking](#)*

This standard is to be used to grade nonsupervisory jobs involved in the preparation of regular and special diet bakery products such as bread, rolls, cakes, cookies, pies, doughnuts, pastries, puddings, fillings, and icings.

7404 - [Cooking](#)*

This standard covers nonsupervisory work involved in the preparation of regular or special diet foods and meals. This includes cooking meats, poultry, fish, shellfish, and vegetables and making soups, gravies, sauces, desserts, and other foods. Cooks use standardized recipes and menus and personal knowledge and experience to measure, assemble, and mix ingredients; regulate cooking temperatures; and add seasoning to foods. They use specialized knowledge and skill to design and prepare decorated foods and aesthetic food arrangements. This includes techniques to mold food items into various forms, carve fruits and vegetables into various shapes, and create ice sculptures.

7405 - [Bartending](#)*

This standard is for use in grading nonsupervisory work involving the mixing and serving of beverages and the support services required for operating a bar. The work requires the ability to mix and serve alcoholic and nonalcoholic beverages, meet and converse with the public, and to maintain the bar in a presentable and sanitary condition.

7407 - [Meatcutting](#)*

This standard covers nonsupervisory jobs involved in cutting, trimming, and removing bones from a variety of types of meat, including beef, pork, lamb, and veal. The meat is usually processed from a variety of forms such as boxed beef and pork primals and subprimals, and sides, quarters, primals, and subprimals of lamb and veal. The work includes cutting meat into steaks, roasts, chops, cutlets, ground meat, and other small cuts using powered equipment and handtools such as meat saws, slicers, grinders, tenderizers, knives, and scrapers. In some work situations, the work includes processing fish and poultry. The work may also include wrapping and displaying meat products for retail sale.

7408 - [Food Service Working](#)*

This standard covers nonsupervisory work involved in serving food and beverages and preparing simple food. It includes setting and waiting on tables where food service is informal; attending food counters; portioning and serving food; assembling trays for hospital patients; recording and retrieving patient diet and other food service information using a computer or manual file system; washing dishes, pots, pans, glasses, and silverware; transporting food, equipment, and supplies by manual or motorized carts; and assisting in food preparation by peeling potatoes, cutting vegetables, assembling and tossing salads, measuring and weighing ingredients, brewing coffee and tea, and mixing bulk fruit juices. In addition, the work typically includes sweeping, washing, mopping and buffing floors, and washing walls and ceilings.

7420 - [Waiter](#)*

This standard is for use in grading nonsupervisory work concerned with setting up tables in a dining room, serving the requested selections in the prescribed manner, and clearing the tables upon completion of the meal.

7600 – PERSONAL SERVICES FAMILY

This job family includes occupations concerned with providing grooming, beauty, or other personal services to individuals, patrons, guests, passengers, entertainers, etc., or attending to their personal effects.

Occupations in this family are:

7603 - [Barbering](#)*

This standard is to be used for grading nonsupervisory work involved in cutting and arranging the hair of the head and face, and conditioning the hair, scalp, face and neck to suit the individual patron. The work requires a knowledge of barbering, and the skill in shaving, cutting, and styling hair, mustaches, and beards by applying barbering techniques and tools.

7641 - [Beautician](#)*

This standard is to be used for grading nonsupervisory work involved in conditioning and beautifying the skin, hair, and nails of the patron. The work requires a knowledge of hairdressing and beauty services; and the skill in applying hairdressing and beauty procedures, implements, appliances, and materials to bring out appropriate and becoming features of the individual.

8200 – FLUID SYSTEMS MAINTENANCE FAMILY

This job family includes occupations that involve repair, modification, assembly, and testing of fluid systems and fluid system components of aircraft, aircraft engines, missiles, and mobile and support equipment. These fluid systems store, supply, distribute, and move gases or liquids in regulated amounts primarily to produce power, transmit force, and pressurize, cool, and condition cabins. Typical of such devices and systems are pumps, governors, regulators, flow control valves, regular valves, air turbines, actuating or slave cylinders, and major accessories that are components of fuel and oil systems; landing gear, brake, flap, door, and other hydraulic actuating and shock absorbing systems; and oxygen, fire prevention, and other pneumatic systems. The most characteristic knowledge and skills required by the work are those of controlling leakage of fluid under pressure; controlling vibration and heating in high-speed turbine operation; and understanding the principles, schematics, and sensing mechanisms involved in regulating fluid flow. *Work on instruments that contain pneumatic and hydraulic components should be coded to the instrument work family, 3300.*

Occupations in this family are:

8255 - [Pneudraulic Systems Mechanic](#)*

This standard covers nonsupervisory work involved in the repair, modification, test, and maintenance of hydraulic and pneumatic systems and components that actuate mechanisms or produce, control, and regulate fluid flow. The work requires knowledge of the physical principles governing the behavior of fluids (liquids and gases) as they pertain to hydraulic and pneumatic systems and components; knowledge of basic electrical and mechanical principles; knowledge of repair procedures, methods, and trade practices; the ability to test for and isolate malfunctions in hydraulic and pneumatic systems or components; and the skill to disassemble, repair, and reassemble such devices. Mechanics work on many different work units at various times and may rotate from modifying, repairing, and rebuilding to testing and troubleshooting assignments.

8268 - [Aircraft Pneudraulic Systems Mechanic](#)*

This standard covers nonsupervisory work involved in the maintenance, modification, and repair of hydraulic and pneumatic systems associated with aircraft. The work requires: knowledge of the physical principles governing the behavior of fluids (liquids and gases) as they pertain to hydraulic and pneumatic systems and their components; knowledge of aircraft structures and the relationship of hydraulic pneumatic systems to the structure and other aircraft systems; knowledge of basic electrical and mechanical principles; the ability to use technical manuals and schematics and to test for and isolate malfunctions in hydraulic and pneumatic systems; and the skill to effect modifications, repairs, or maintenance required.

8600 – ENGINE OVERHAUL FAMILY

This job family includes occupations concerned primarily with the manufacture, repair, modification, and major overhaul of engines (except where covered by another group), including the disassembly, reassembly, and test phases of engine overhaul programs.

Occupations in this family are:

8602 - [Aircraft Engine Mechanic](#)*

This standard provides grading criteria for all nonsupervisory work performing maintenance, troubleshooting, repair, overhaul, modification, and testing of conventional, modified, and experimental aircraft engines, their components, assemblies, and subassemblies. This standard also covers work involving engine accessories such as starters, generators, anti-icers, and fuel control devices when such assignments are incidental to work on the completed engine. Some work situations within this series may require varying levels of electronics knowledge.

8610 - Small Engine Mechanic

This occupation includes jobs involved in diagnosing malfunctions, determining needed repairs, repairing, and testing small gasoline and diesel engines such as those found on motor boats, lawn mowers, power saws, and other similar equipment.

8675 - Liquid Fuel Rocket Engine Mechanic

This occupation includes jobs involving troubleshooting and correcting malfunctions of liquid fuel rocket engines. This work includes diagnosing the cause of failure, disassembling engine to the point where the failure can be corrected, replacing defective parts, reassembling engine, operating test stand to check out various systems of the engine, and making final adjustments.

8800 – AIRCRAFT OVERHAUL FAMILY

This job family includes occupations concerned primarily with the overhaul of aircraft, including the disassembly, reassembly, and test phases of aircraft overhaul programs. *Specialized work primarily involved in maintaining and repairing single aircraft systems, engines, or accessories should be coded to the appropriate work family or the kind of work done.*

Occupations in this family are:

8810 - Aircraft Propeller Mechanic

This occupation includes jobs that involve troubleshooting, repairing, adjusting, overhauling, modifying, testing, and servicing aircraft propeller assemblies and their components, and straightening propeller blades. The work requires an overall knowledge of hydraulic, electric, and mechanical controls; drive mechanisms and their subassemblies; and of the interrelationships of the mechanisms, valves, synchrophasers, and other components of the complete propeller assembly.

8840 - [Aircraft Mechanical Parts Repairing](#)*

This standard covers nonsupervisory work involved in the repair, modification, overhaul/recondition, and test of mechanical parts and components removed from fixed and rotary wing aircraft such as control columns, transmissions, gear boxes, landing gear components, clutch assemblies, rotor head assemblies and blades, constant speed drives, mechanical actuators, wheel and rotor brake assemblies, cargo hooks, engine controls, cable tension regulators, accessory drive gear boxes, cargo winches, turbine blades, and compressor vanes. The work requires knowledge of the mechanical relationships and operational characteristics of mechanical parts and components being repaired or reworked. The work does not require a substantive knowledge of aircraft systems and their interrelationships.

8852 - [Aircraft Mechanic](#)*

This standard is used to grade all nonsupervisory jobs involved in the maintenance, troubleshooting, repair, overhaul, and modification of fixed and rotary wing aircraft systems, airframes, components and assemblies, where the work requires substantive knowledge of the airframe and aircraft mechanical, pneumatic, and/or electrical systems and their interrelationships. Some work situations within this series may require varying levels of electronics knowledge.

8862 - [Aircraft Attending](#)*

This standard is used to grade nonsupervisory work concerned with the servicing of military and civilian aircraft both foreign and domestic. The work involves meeting and guiding incoming aircraft to appropriate parking areas, directing aircraft into parking position through hand signals, securing aircraft (e.g., chock wheels, attach ground wires, and install lock pins and engine covers), refueling aircraft, obtaining and operating aircraft ground support equipment (e.g., gas turbine compressors and auxiliary power units), and servicing (i.e., checking and replenishing) aircraft with oil, hydraulic fluid compressed air, nitrogen, liquid oxygen, demineralized water, and other consumable materials. Most work requires the incidental use of a variety of trade practices associated with occupations such as motor vehicle operating, tractor operating, and fuel distribution system operating.

8882 - Airframe Test Operating

This occupation includes jobs involved in setting up and operating equipment to test the structural integrity of airframes or other similar structures such as re-entry vehicles. Work includes assembling and disassembling test structures, constructing and erecting test jigs, and installing test devices and supporting electrical, mechanical, and hydraulic equipment. The work requires a knowledge of airframe assembly, structural steel jig building and handling, tension patch forming and attachment, load application methods, and load measuring devices and their adjustment; ability to understand test objectives and relationships among airframe, jig, loading devices, and load measuring instruments; and knowledge of the sequence, methods, and procedures of test operations.

9000 – FILM PROCESSING FAMILY

This job family includes occupations that involve processing film; for example, operating motion picture developers and printers; cleaning, repairing, matching, cutting, splicing, and assembling films; and mixing developing solutions). The work does not include processing work that requires specialized subject-matter knowledge or artistic ability.

Occupations in this family are:

9003 - Film Assembling and Repairing

This occupation includes jobs involved in examining, cleaning, modifying, cutting, splicing, and assembling motion picture film, filmstrips, and film prints; deleting damaged sections, and repairing defects; joining, assembling, synchronizing, and preparing preprint motion picture film for printing; matching, cutting, splicing, and synchronizing negative film in picture and sound sequence to an edited work print of a completed motion picture production; etc. This work involves the operation of equipment such as automatic inspection machines, film cleaning machines, film splicers, rewinders, synchronizers, magnetic sound readers, moviolas, film coding machines, and/or film lacquering machines, and may involve the incidental operation of projectors and other similar viewing and/or sound equipment.

9004 - Motion Picture Developing/Printing Machine Operating

This occupation includes jobs involved in the operation and operational maintenance of motion picture developing machines and/or printing machines.

ALPHABETICAL LISTING OF TRADE, CRAFT OR LABOR OCCUPATIONS AND FAMILIES

	Code		Code
Air Conditioning Equipment Mechanic*	5306	Carpentry*	4607
Air Conditioning Equipment Operating*	5415	Carton/Bag Making Machine Operating	5435
Aircraft Attending*	8862	Cement Finishing*	3602
Aircraft Electrician*	2892	Cemetery Caretaking*	4754
Aircraft Engine Mechanic*	8602	Chemical Equipment Repairing	4807
Aircraft Freight Loading	6968	Chemical Plant Operating	5427
Aircraft Mechanic*	8852	Circuit Board Making	3736
Aircraft Mechanical Parts Repairing*	8840	Coal Handling	6903
Aircraft Ordnance Systems Mechanic*	6652	Coin/Currency Checking	3513
AIRCRAFT OVERHAUL FAMILY	8800	Communications Line Installing and Repairing	2508
Aircraft Pneudraulic Systems Mechanic*	8268	Cooking*	7404
Aircraft Propeller Mechanic	8810	Counting Machine Operating	5484
Aircraft Survival and Flight Equipment Repairing	4818	Crane Operating*	5725
Aircraft Weight and Balance Operating	5485	Custodial Equipment Servicing	4808
Airfield Clearing Equipment Operating	5767	Custodial Working*	3566
Airframe Jig Fitting	3819		
Airframe Test Operating	8882	Dairy Farming	5034
AMMUNITION, EXPLOSIVES, AND TOXIC		Deckhand	5788
MATERIALS WORK FAMILY	6500	Die Sinking*	3428
Animal Caretaking*	5048	Domestic Appliance Repairing	4855
ARMAMENT WORK FAMILY	6600	Door Systems Mechanic	5364
Artillery Repairing*	6605	Dredging Equipment Operating	5479
Artillery Testing	6606	Drill Rig Operating*	5729
Asphalt Working*	3653		
Automotive Mechanic*	5823	Electrical Equipment Repairing*	2854
		ELECTRICAL INSTALLATION AND	
Baking*	7402	MAINTENANCE FAMILY	2800
Bank Note Designing	4445	Electrician*	2805
Bank Note Engraving	4446	Electric Power Controlling*	5407
Barbering*	7603	Electrolytic Intaglio Platemaking	2854
Bartending*	7405	Electromotive Equipment Mechanic	5876
Battery Repairing	3725	Electronic Digital Computer Mechanic	2608
Bearing Reconditioning*	4850	ELECTRONIC EQUIPMENT INSTALLATION	
Beautician*	7641	AND MAINTENANCE FAMILY	2600
Bindery Working*	4402	Electronic Industrial Controls Mechanic*	2606
Blocking and Bracing*	4602	Electronic Integrated Systems Mechanic*	2610
Boat Building and Repairing	4717	Electronic Measurement Equipment Mechanic*	2602
Boilermaking*	3808	Electronics Mechanic*	2604
Boiler Plant Operating*	5402	Electroplating*	3711
Bookbinding	4441	Elevator Mechanic*	5313
Bowling Equipment Repairing*	4819	Elevator Operating*	5438
Braking-Switching and Conducting*	5736	Engineering Equipment Operating*	5716
Broadcasting Equipment Operating	3940	ENGINE OVERHAUL FAMILY	8600
Broom and Brush Making	3911	Engraving	3816
Buffing and Polishing	3727		
Bulk Money Handling	6941		

	Code		Code
Equipment Cleaning*	7009	INDUSTRIAL EQUIPMENT OPERATION	
Exhibits Making/Modeling	4715	FAMILY	5400
Explosives Operating*	6502	Industrial Furnace Building and Repairing	5341
Explosives Test Operating*	6517	Insects Production Working*	5031
		Instrument Making*	3314
FABRIC AND LEATHER WORK FAMILY	3100	Instrument Mechanic*	3359
Fabric Working*	3105	INSTRUMENT WORK FAMILY	3300
Farming	5002	Insulating*	3610
Film Assembling and Repairing	9003	Intaglio Die and Plate Finishing	4450
Film Assembly-Stripping*	4405	Intaglio Press Operating	4454
FILM PROCESSING FAMILY	9000		
Flame/Arc Cutting	3702	Kitchen/Bakery Equipment Repairing	5310
Floor Covering Installing	3609		
FLUID SYSTEMS MAINTENANCE FAMILY	8200	Laboratory Support Working	3515
FOOD PREPARATION AND SERVING		Laboratory Working*	3511
FAMILY	7400	Laboring*	3502
Food Service Working*	7408	Laundry & Dry Cleaning Equipment Repairing	5317
Fork Lift Operating*	5704	LAUNDRY, DRY CLEANING, AND PRESSING	
Form Block Making	4654	FAMILY	7300
Fuel Distribution System Mechanic	4255	Laundry Machine Operating*	7305
Fuel Distribution System Operating*	5413	Laundry Working*	7304
Furnace Operating	3741	Leadburning	3716
		LENS AND CRYSTAL WORK FAMILY	4000
Gardening*	5003	Letterpress Operating	4406
Gasdynamic Facility Installing and Repairing	5384	Liquid Fuel Rocket Engine Mechanic	8675
Gas Generating Plant Operating	5413	Livestock Ranching/Wrangling	5035
Gas and Radiation Detecting	3741	Lock and Dam Repairing	5318
GENERAL EQUIPMENT MAINTENANCE		Lock and Dam Operating*	5426
FAMILY	4800	Locksmithing*	4804
General Equipment Mechanic	4737	Locomotive Engineering*	5737
General Equipment Operating	4741	Lofting	5221
GENERAL MAINTENANCE AND			
OPERATIONS WORK FAMILY	4700	MACHINE TOOL WORK FAMILY	3400
GENERAL SERVICES AND		Machining*	3414
SUPPORT WORK FAMILY	3500	Maintenance Mechanic*	4749
Glassblowing	4370	Marine Machinery Mechanic*	5334
Glazing	3611	Masonry*	3603
		Materials Examining and Identifying*	6912
Hand Composing	4403	Materials Expediting*	6910
Hazardous Waste Disposing*	6913	Materials Handling*	6907
Heating and Boiler Plant Equipment Mechanic*	5309	Meatcutting*	7407
Heat Treating	3712	Mechanical Parts Repairing	4848
Heavy Mobile Equipment Mechanic*	5803	Medical Equipment Repairing*	4805
High Voltage Electrician	2810	Metal Forging*	3802
		Metal Forming Machine Operating*	3869
Incinerator Operating	5403	Metalizing	3707
INDUSTRIAL EQUIPMENT MAINTENANCE		Metal Phototransferring	3735
FAMILY	5300	METAL PROCESSING FAMILY	3700
Industrial Equipment Mechanic*	5352	Metal Tank and Radiator Repairing	3858

	Code		Code
Metal Tube Making, Installing, and Repairing.....	3872	Plumbing*.....	4206
METAL WORK FAMILY.....	3800	PLUMBING AND PIPEFITTING	
MISCELLANEOUS OCCUPATIONS FAMILY..	5200	FAMILY.....	4200
Missile/Toxic Materials Handling.....	6511	Pneudraulic Systems Mechanic*.....	8255
Mobile Equipment Metal Mechanic*.....	3809	Portable Equipment Operating.....	5478
Mobile Equipment Servicing*.....	5806	Powered Support Systems Mechanic*.....	5378
Model Making*.....	4714	Prescription Eyeglass Making.....	4010
Molding.....	4373	Preservation Servicing*.....	7006
Motion Picture Developing/Printing		Pressing*.....	7306
Machine Operating.....	9004	Printing Equipment Repairing.....	5330
Motion Picture Projection*.....	3910	PRINTING FAMILY.....	4000
MOTION PICTURE, RADIO, TELEVISION, AND		Production Machinery Mechanic*.....	5350
SOUND EQUIPMENT OPERATION FAMILY	3900	Protective and Safety Equipment Fabricating	
Motor Vehicle Operating*.....	5703	and Repairing.....	4816
Munitions Destroying*.....	6505		
		Railroad Car Repairing.....	4716
Negative Engraving*.....	4413	Railroad Maintenance Vehicle Operating*.....	5738
Nondestructive Testing.....	3705	Railroad Repairing*.....	3546
		Research Laboratory Mechanic.....	4745
Office Appliance Repairing*.....	4806	Rigging*.....	5210
Offset Photography*.....	4414	Riverboat Operating.....	5784
Offset Platemaking*.....	4416	Road Sweeper Operating.....	5706
Offset Press Operating*.....	4417	Roofing*.....	3606
Oiling and Greasing.....	5323	Rubber Equipment Repairing.....	4361
Optical Element Working.....	4005	Rubber Products Molding.....	4360
Optical Instrument Repairing*.....	3306		
Ordnance Equipment Mechanic*.....	6641	Sandblasting*.....	5423
Orthopedic Appliance Repairing.....	4845	Sculptural Engraving.....	4447
		Sewing Machine Operating*.....	3111
Packaging Machine Operating.....	5440	Sheet Metal Mechanic*.....	3806
Packing*.....	7002	Shipfitting*.....	3820
PACKING AND PROCESSING FAMILY.....	7000	Ship Operating.....	5782
Painting*.....	4102	Shipwright*.....	5220
PAINTING AND PAPERHANGING FAMILY ..	4100	Shoe Repairing.....	3103
Paperhanging.....	4103	Shot Peening Machine Operating.....	3769
Paper Pulping Machine Operating.....	5455	Siderographic Transferring.....	4448
Parachute Packing*.....	7010	Sign Painting*.....	4104
Patternmaking*.....	4616	Silk Screen Making and Printing.....	4419
PERSONAL SERVICES FAMILY.....	7600	Small Arms Repairing*.....	6610
Pest Controlling*.....	5026	Small Craft Operating*.....	5786
Photoengraving.....	4425	Small Engine Mechanic.....	8610
Physiological Trainer Mechanic.....	5365	Special Weapons Systems Mechanic.....	6656
Pipefitting*.....	4204	Stationary-Engine Operating.....	5419
PLANT AND ANIMAL WORK FAMILY.....	5000	Stevedoring.....	3543
Plastering*.....	3605	Stereotype Platemaking.....	4440
Plastic Fabricating*.....	4352	Store Working*.....	6914
Plastic Molding Equipment Operating.....	4351	STRUCTURAL AND FINISHING WORK	
Platemaking*.....	4416	FAMILY.....	3600
PLIABLE MATERIALS WORK FAMILY.....	4300		

	Code		Code
Structural/Ornamental Iron Working.....	3807	Upholstering*	3106
Telecommunications Mechanic*	2502	Utility Systems Operating*	5406
Testing Equipment Operating.....	5439	Utility Systems Repairing-Operating*	4742
Test Range Tracking.....	5235	Vending Machine Repairing	4820
Textile Equipment Operating	5446	Waiter*	7420
Tile Setting	3604	WAREHOUSING AND STOCK	
Timber Working	4639	HANDLING FAMILY.....	6900
Tool and Equipment Repairing.....	4840	Wastewater Treatment Plant Operating*	5408
Tool Grinding	3417	Water Treatment Plant Operating*	5409
Toolmaking*.....	3416	Weighing Machine Operating	5424
Tools and Parts Attending*	6904	Welding*.....	3703
Tractor Operating*	5705	Wind Tunnel Mechanic	5335
Transfer Engraving.....	3833	Wire Communications Cable Splicing.....	2504
TRANSPORTATION/MOBILE EQUIPMENT		WIRE COMMUNICATIONS EQUIPMENT	
MAINTENANCE FAMILY	5800	INSTALLATION & MAINTENANCE FAMILY.....	2500
TRANSPORTATION/MOBILE EQUIPMENT		Wood Crafting*	4605
OPERATION FAMILY	5700	WOOD WORK FAMILY	4600
Tree Trimming and Removing	5042	Wood Working*	4604

APPENDIX

VESSEL JOBS EXCLUDED FROM THE FEDERAL WAGE SYSTEM BY 5 U.S.C. 5342

Section 5342 of Title 5, United States Code, provides that subchapter IV, except Section 5348, is not applicable to officers and members of crews of vessels excepted from chapter 51 of title 5 by Section 5102 (8) of that title. Agencies should use the following codes for reporting work force information on those vessel employees whose pay is fixed and adjusted in accordance with maritime rates and practices.

9901 (Miscellaneous jobs not covered by specific occupational codes)	9949 Assistant Plumber
9902 Master	9950 Plumber Machinist
9903 Chief Officer Cable	9951 Deck Engineer
9904 Ship Pilot	9952 Deck Engineer-Machinist
9905 First Officer	9953 Deck Engineer-Mechanic
9906 Second Officer	9954 Unlicensed Junior Engineer
9907 Third Officer	9955 Pumpman
9908 Ship's Communication Officer	9956 Engineman
9909 Radio Officer	9957 Engine Utilityman
9910 First Assistant Radio Officer	9958 Evaporator-Utilityman
9911 Radio Electronics Officer	9959 Machinist
9912 First Assistant Radio Electronics Officer	9960 Oiler
9913 Relief Deck Officer	9961 Oiler-Diesel
9914 Damage Control Officer	9962 Refrigeration Oiler
9915 Assistant Damage Control Officer	9963 Fireman
9916 Master-Mate (Fishing Vessel)	9964 Fireman-Watertender
9917 Deck Midshipman	9965 Wiper
9918 Damage Control Leader	9968 Chief Steward
9919 Damage Control Assistant Leader	9969 Third Steward
9920 Boatswain	9971 Chief Cook
9921 Carpenter	9972 Steward Cook
9922 Carpenter-Maintenance	9973 Second Cook
9923 Boatswain's Mate	9974 Third Cook
9924 Able Seaman	9975 Assistant Cook
9925 Able Seaman-Maintenance	9976 Cook-Baker
9926 Quartermaster	9977 Second Cook-Baker
9927 Seaman-Fisherman	9978 Night Cook and Baker
9928 Ordinary Seaman	9979 Steward-Baker
9929 Damage Controlman	9980 Third Pantryman
9931 Chief Engineer	9981 Galleyman
9932 First Assistant Engineer	9982 Laundryman
9933 Second Assistant Engineer	9983 Assistant Laundryman
9934 Third Assistant Engineer	9984 Messman
9935 Relief Engineer	9985 Steward-Utilityman
9936 Engine Midshipman	9988 Purser
9939 Chief Electrician	9989 Junior Purser
9940 Electrician	9990 Disbursing Officer
9941 Electrician-Maintenance	9991 Supply Officer
9942 Second Electrician	9992 Assistant Supply Officer
9943 Third Electrician	9993 Junior Supply Officer
9944 Electronics Technician	9994 Assistant Storekeeper
9945 Refrigeration Engineer	9995 Chief, Radio Electronics Technician
9946 Second Refrigeration Engineer	9996 Medical Services Officer
9947 Third Refrigeration Engineer	9997 First Radio Electronics Technician
9948 Plumber	9998 Yeoman-Storekeeper