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THE GUIDE TO PERSONNEL DATA STANDARDS

**FUNCTIONAL CLASSIFICATION**

- Definition:** An employee's primary work function as a scientist or engineer.
- Responsible Organization:** National Science Foundation, Government Studies Group.
- Applicability:** Mandatory (Central Personnel Data File, Request for Personnel Action only).
- Cross-Reference:** [OCCUPATION](#)
- Format:** NN

**Note:**

The functional classification rests on the principle that the coding of positions to categories will be done on the basis of the function in which the individual is "primarily engaged." The primary function is the single functional category which occupies the largest proportion of the employee's time or which best reflects a combination of functions in terms of the paramount requirements of the job.

The object is to capture, insofar as practical, what a person does. For example, a person who is primarily engaged in designing equipment for a testing program should be coded to Design and not to Test and Evaluation. A person who is primarily engaged in providing expert advice and consultation to others (in different agencies, or States, or foreign governments, etc.) on data collection, should be coded to Technical Assistance and Consulting and not to Data Collection, Processing, and Analysis.

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## FUNCTIONAL CLASSIFICATION

### Note (continued):

Because of the myriad of different ways in which work is organized in the Federal Government, the categories are not completely discrete. The categories by and large consist of aggregates of subfunctions or activities. Cost estimating, for example, is defined as a subfunction of other functions such as Development and Planning. Similarly, analysis of data, which is defined as a subfunction of Data Collection, Processing, and Analysis, is also performed as a part of Research and other functions. (Even an activity like planning, which constitutes a functional category by itself, may be performed as an integral part of the work of other categories).

The coding of a person primarily engaged in an activity which is a subfunction of more than one functional category should be guided by the work relationships. Cost estimating which is part of the design process should be coded to Design; cost estimating which is a part of the construction process should be coded to Construction. Analysis of data which is an integral part of Research should be coded to Research. In cases like these, selection of the proper category depends upon the purpose and setting of the individual's work.

Separate categories are not provided for each of the activities carried out in the Federal Government. Examples of activities for which a separate category was not established are frequency allocation, valuation engineering, patent examining, and operations research. Generally, these activities are specialized and represent small populations. Data on those that are identified as separate occupations (patent examining and operations research) can be obtained from the Office of Personnel Management's occupational statistics. Jobs in specialized activities such as these should be coded, if possible, to the most appropriate category provided (e.g., patent examination to Regulatory Enforcement and Licensing).

It is fully recognized that there are many "mixed" functional positions. Wherever possible, the use of "Other--Not Elsewhere Classified" should be avoided. Coding of mixed jobs should be guided by the functional category which is most significant in terms of proportion of time or the qualifications required to perform the work successfully. Coding of mixed function positions to "Other--Not Elsewhere Classified" should be limited to those jobs of such generalized nature that no one functional category predominates.

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**Note** (continued):

Many positions, particularly in Research and Development, are mixed in that the employee performs over a period of time a sequence of functions such as research, development, production, etc. Coding of such jobs should be done on the basis of the primary function over a reasonable period of time, generally about a year. (Change in primary function which occurs at the end of one or several year periods should of course result in a change in the coding of the job).

Persons engaged in supervision of a function are to be included in the count of those engaged in performing the function.

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<u>Code</u>	<u>Name/Explanation</u>
00	Not applicable. Employee is not in one of the occupations to which the functional classifications must be applied.
11	<p>Research. Systematic, critical, intensive investigation directed toward the development of new or fuller scientific knowledge of the subject studied. It may be with or without reference to a specific application. The work involves theoretical, taxonomic, and experimental investigations or simulation of experiments and conditions to: (1) Determine the nature, magnitude, and interrelationships of natural and social phenomena and processes, (2) Create or develop theoretical or experimental means of investigating such phenomena or processes; and (3) Develop the principles, criteria, methods and a body of data of general applicability for use by others.</p> <p>Excluded from this category is work concerned primarily with the administration and monitoring of research contracts and research grants.</p>
12	Research contract and grant administration. The administration and monitoring of research contracts and research grants.
13	<p>Development. Systematic application of scientific knowledge directed toward the creation of new or substantially improved equipment, materials, instrumentation, devices, systems, mathematical models, processes, techniques, and procedures which will perform a useful function or be suitable for a particular duty.</p> <p>The work involves such activities as: (1) Establishing requirements for technical objectives and characteristics; (2) Devising and evaluating concepts for design approaches, including: criteria, parameters, characteristics, and interrelationships; (3) Experimenting, investigating, and testing to produce new data, mathematical models, or methods to test concepts, formulate design criteria, and measure and predict natural and social phenomena and performance; (4) Designing and developing prototypes, breadboards, and engineering models including the direction of their fabrication as required; (5) Developing standards and test plans to assure reliability; and (6) Managing specific developments being executed in-house or under contract.</p> <p>Development, like research, advances the state of the art, but it is further characterized by the creation of specific end-items in the form of equipment or equipment systems ("hardware" development) and/or methodologies, mathematical models, procedures and techniques ("software" development).</p>

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14	<p data-bbox="380 474 1422 764">Test and evaluation. The testing of equipment, materials, devices, components, systems and methodologies under controlled conditions and the systematic evaluation of test data to determine the degree of compliance of the test item with predetermined criteria and requirements. This work is characterized by the development and application of test plans to be carried out in-house or under contract or grant, utilizing one or more of the following kinds of tests: physical measurement techniques; controlled laboratory, shop, and field (demonstration) trials; and simulated environmental techniques.</p> <p data-bbox="380 806 1422 1020">This category includes: (1) Development testing to determine the suitability of the test item for use in its environment; (2) Production and post-production testing to determine operational readiness; (3) Testing in regulatory programs to determine compliance with laws, regulations and standards; and (4) Testing in the social sciences using demonstration or experimental and control groups to determine the effectiveness of new methodologies or practices.</p>
21	<p data-bbox="380 1062 1422 1167">Design. The planning, synthesis, and portrayal for purposes of fabrication or construction of structures, equipment, materials, facilities, devices, and processes which will perform a useful function or be suitable for a certain duty.</p> <p data-bbox="380 1209 1422 1461">The work involves such activities as: (1) Investigating, analyzing, and determining needs and design considerations; (2) Planning, synthesizing, and proportioning the structure or mechanism so that the result is achieved with safety and economy; (3) Preparing design criteria, detailed designs, specifications, cost estimates, and operating instructions; and (4) Reviewing and evaluating design proposals and designs prepared by others including the management of architectural and engineering contracts.</p> <p data-bbox="380 1503 1422 1640">For present purposes, design in a research and development organization is the application of the known state of the art in the form of standard guidelines and references to prepare the detailed working plans and data required for fabrication, assembly, and production.</p>

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22	<p>Construction. The original erection, repair, and improvement of structures that provide shelter for people and activities, support transportation systems, and control natural resources.</p> <p>The work involves surveillance and control of construction operations carried out in-house or under Federal grants, contracts, or loans through such activities as: (1) Conducting site surveys; (2) Reviewing and interpreting project plans and specifications; (3) Making cost analyses and estimates; (4) Laying out and scheduling operations; (5) Investigating materials, methods, and construction problems; (6) Negotiating with utilities, contractors, and agencies involved; and (7) Inspecting work in progress and completed work and final acceptance of completed work.</p>
23	<p>Production. The fabrication and manufacture of structures, equipment, materials, machines and devices. The work involves surveillance and control of production operations carried out in-house or under contract through such activities as: (1) Planning, directing, controlling, inspecting, and evaluating production processes, equipment, and facilities; (2) Refining designs to adapt them to production facilities and processes; and (3) Devising, applying, and monitoring procedures to measure and assure quality.</p>
24	<p>Installation, operations and maintenance. The installing, assembling, integrating, and assuring of proper technical operation and functioning of systems, facilities, machinery and equipment.</p> <p>The work involves such activities as: (1) Analyzing operating and environmental conditions in order to provide design inputs and feedbacks and modifying designs as necessary to adapt them to actual environments; (2) Developing and determining logistic requirements, documentation, technical plans, procedures, controls and instructions; (3) Equipping, supplying, and commissioning facilities; (4) Analyzing performance and cost data and developing actual performance and cost data requirements, (5) Integrating equipment installation and operating schedules; (6) Managing onsite an operating facility such as a power plant, test range, mission control center, irrigation station, data acquisition station, or flight control station; and (7) Managing installation, operations, or maintenance contracts.</p>

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31	<p>Data collection, processing, and analysis. This category includes the collection, processing, and analysis of general purpose scientific data describing natural and social phenomena. General purpose scientific data include newly gathered statistics, observations, instrument readings, measurements, specimens, and other facts obtained from such activities as statistical and field surveys, exploration, laboratory analyses, photogrammetry, and compilations of operating records for use by others.</p> <p>The work involves such activities as: (1) Determining data needs and data processing requirements; (2) Planning, directing, and evaluating collection activities performed in-house or under contract; (3) Designing overall processing plans and systems to handle, control, operate, manipulate, reduce, store, check, and retrieve data; (4) Analyzing raw and processed data for validity and subject-matter interpretation; (5) Providing analytic services such as chemical analyses; (6) Forecasting and projecting data and conditions; and (7) Summarizing and presenting data for general use.</p> <p>Excluded from this category are collection and analysis of data only for research and development projects and internal operating or administrative purposes such as policy formulation and planning.</p>
32	<p>Scientific and technical information. The processing and dissemination of published and unpublished technical documents and information on work in progress and completed work to facilitate their use. The work involves developing and implementing information systems through such activities as: (1) Providing for the selection, acquisition, compilation, exchange, and storage of scientific and technical information; (2) Cataloging, abstracting, and indexing information for retrieval and dissemination; (3) Providing reference, literature search and bibliographic services for information users; (4) Interpreting, evaluating, and briefing on the significance and relevance of information; (5) Disseminating information through briefings, technical publications, and other communications media; and (6) Classifying and declassifying technical information where use must be controlled in the national interest.</p>

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41	<p>Standards and specifications. The preparation and determination of mandatory and/or voluntary standards including rules, regulations, and codes.</p> <p>These standards are for purposes of: (1) Government regulation and (2) The assuring of the acceptability, quality, and/or standardization of products, materials, and parts as required for design, production, purchasing, logistics, and documentation.</p> <p>The work involves the development of performance criteria, test and inspection methods, and data for the application of the standards to technological products and services.</p>
42	<p>Regulatory enforcement and licensing. The application and enforcement of laws, rules, regulations, orders, and governmental agreements through inspection, investigation, surveillance, licensing, certification, and similar activities. The work includes such activities as: (1) Licensing powerplants and radio stations; (2) Enforcing plant or animal disease eradication programs; (3) Examining applications for patents; (4) Inspecting operations for compliance with requirements; (5) Approving utility rates and services; (6) Investigating aircraft accidents; (7) Allocating radio frequencies; and (8) Determining compliance with engineering aspects of Federal tax laws.</p>
51	<p>Natural resource operations. The development and utilization of Federally-owned and trust lands and natural resources for the purposes of bringing current use into balance with natural processes of renewal to assure sustained yields to meet present and future public needs. Natural resources include land, air, and water and their related products or uses, such as soil, minerals, forage, wildlife, power, and recreation. The work involves implementing programs and projects to inventory, classify, utilize, improve, conserve, regulate, protect, sell, lease, or market natural resources. Resource operations as defined here are concerned with managing and conserving the land and resources in a specified geographic area.</p>
81	<p>Clinical practice, counseling, and ancillary medical services. The provision of direct clinical and related services to patients and clients including examination, testing, diagnosis, treatment, therapy, casework, counseling, disability evaluation, and related patient care services.</p>

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91	<p>Planning. The study and projection of present and future needs and the formulation of alternative policies and ways of meeting these needs for the utilization of: Land; natural, social, industrial, material and manpower resources; physical facilities; and social and economic services and programs. The work involves: (1) Gathering, compiling, analyzing, and evaluating data; (2) Projecting needs and establishing goals; (3) Developing single or alternative plans, policies, programs, and recommendations and measures of their economic, social, and political costs, benefits, and feasibility; and (4) Reevaluating progress to assure that plan objectives are realized in putting the plans into effect.</p> <p>This category includes physical, economic, and social planning for land population centers and missions, policy, and program planning.</p>
92	<p>Management. The direction and control of scientific and engineering programs in any one or combination of functions in a line or staff capacity with responsibilities that have a direct and substantial effect on the organizations and programs managed. The work involves decisions, actions, and recommendations that establish the basic content and character of the programs directed in terms of program objectives and priorities, program initiation and content, funding, and allocation of organizational resources.</p> <p>This category is not intended to cover those primarily engaged in the supervision or monitoring of work carried out through contracts and grants or in contract and grants administration. Such positions are to be coded to the appropriate function.</p>
93	<p>Teaching and training. The teaching of scientific and technical subjects; the education and training of scientific and technical personnel in-house and through programs consisting of fellowships, traineeships, and training grants, and the development of curricula and training materials and aids.</p>
94	<p>Technical assistance and consulting. The provision of scientific and technical expert assistance, consultation, and advice to other scientific personnel; foreign governments, government agencies at the Federal, State, or Local level; private industry; organized groups, and individuals. The work involves advising upon and promoting application of the results of research and specialized program knowledge.</p>

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99	Other--Not elsewhere classified. This category is to be used for: (1) Positions with highly specialized activities which are not covered in any of the categories; (2) Positions of such generalized nature that a primary function cannot be identified; and (3) Trainee positions for which functional assignments have not been made.