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## Operating Manual

# Qualification Standards for General Schedule Positions

## Group Coverage Qualifications Standards for

# Professional and Scientific Positions

*The text below is extracted verbatim from Section IV-A (pp.19-24) of the Operating Manual for Qualification Standards for General Schedule Positions [MANUAL], but contains minor edits to conform to web-page requirements.*

This qualification standard covers positions in the General Schedule that involve the performance of two-grade interval professional and scientific work. The specific requirements for entry into each occupation covered by this standard are described in individual occupational requirements in Section IV-B of the [MANUAL]. This same information is available through the [index](#) of this Web page. Subsection [E.4.\(g\)](#) of the "General Policies and Instructions" (Section II of this Manual) provides guidance on interpreting minimum educational requirements.

A list of the occupational series covered by this standard is provided [below](#).

## **BASIC REQUIREMENTS FOR ALL GRADES**

Applicants who meet the basic requirements described in the individual occupational requirements are fully qualified for the specified entry grade (generally grade GS-5). Applicants who wish to qualify for positions at higher grade levels (generally grade GS-7 and above) must also meet the requirements shown in the [table](#) on page IV-A-22, in addition to meeting the basic requirements.

The individual occupational requirements typically provide at least two methods for applicants to meet the basic requirements of the occupations covered by this standard:

- A. Successful completion of a full 4-year course of study in an accredited college or university leading to a bachelor's or higher degree that included a major field of study or specific course requirements generally as stated in paragraph A in the individual occupational requirements.

Where specific course requirements are not indicated in paragraph A, the number of semester hours required to constitute a major field of study is the amount specified by the college or university attended. If this number cannot be obtained, 24 semester hours will be considered as equivalent to a major field of study. The nature and quality of this required course work must have been such that it would serve as a prerequisite for more advanced study in the field or subject-matter area. Related course work generally refers to courses that may be accepted as part of the program major.

OR

- B. Appropriate combination of education and experience that is typically specified in paragraph B of the individual occupational requirements. The "paragraph B" method generally requires that an applicant possess a core of educational credit, such as described in paragraph A above, plus additional education and/or experience. The method of determining the number of semester hours required to constitute a major field of study is the same as described in paragraph A.

The quality of the combination of education and experience must be sufficient to demonstrate that the applicant possesses the knowledge, skills, and abilities required to perform work in the occupation, and is comparable to that normally acquired through the successful completion of a full 4-year course of study with a major in the appropriate field. In addition to courses in the major and related fields, a typical college degree would have included courses that involved analysis, writing, critical thinking, research, etc. These courses would have provided an applicant with skills and abilities sufficient to perform progressively more responsible work in the occupation. Therefore, creditable experience should have demonstrated similarly appropriate skills or abilities needed to perform the work of the occupation.

The individual occupational requirements for some series make no provision for combining experience and education. Therefore, they do *not* include paragraph B provisions.

For a small number of occupations or positions covered by this standard, applicants may possess certain kinds of experience *in lieu* of education. In such cases, applicants may meet minimum qualification requirements through experience equivalent to a 4-year degree. These situations are generally described in paragraph C of the individual occupational requirements.

Applicants whose experience is used to meet the basic requirements through a paragraph B or C provision may qualify for grades above the entry level if that experience includes 1 year of specialized experience. In such cases, the specialized experience would have to be evaluated to determine if it is at the appropriate grade level in the normal line of progression.

**ADDITIONAL EXPERIENCE AND EDUCATION REQUIREMENTS FOR GS-7 AND ABOVE**

In addition to meeting the basic entry qualification requirements, applicants must have specialized experience and/or directly related education in the amounts shown in the table below.

<b>GRADE/POSITIONS</b>	<b>EDUCATION</b>	<b>SPECIALIZED EXPERIENCE</b>
<b>GS-7</b>	1 year of graduate-level education <i>or</i> superior academic achievement	1 year equivalent to at least GS-5
<b>GS-9</b>	2 years of progressively higher level graduate education leading to a master's degree <i>or</i> master's or equivalent graduate degree	1 year equivalent to at least GS-7
<b>GS-11</b>	3 years of progressively higher level graduate education leading to a Ph.D. degree <i>or</i> Ph.D. or equivalent doctoral degree	1 year equivalent to at least GS-9
<b>GS-12 and above</b>		1 year equivalent to at least next lower grade level
<i>Research Positions</i>		
<b>GS-11</b> research positions	Master's or equivalent graduate degree	1 year equivalent to at least GS-9
<b>GS-12</b> research positions	Ph.D. or equivalent doctoral degree	1 year equivalent to at least GS-11
<b>GS-13 and above</b> research positions		1 year equivalent to at least next lower grade level
<i>NOTE:</i> Education and experience may be combined for all grade levels for which both education and experience are acceptable.		

While the levels of experience shown for most positions covered by this standard follow the grade level progression pattern outlined in the table, users of the standard should refer

to [E.3.\(p\)](#) in the "General Policies and Instructions" (Section II of this Manual) for guidance on crediting experience for positions with different lines of progression.

*Combining Education and Experience:* When combining education with experience, first determine the applicant's total qualifying education as a percentage of the education required for the grade level; then determine the applicant's experience as a percentage of the experience required for the grade level; finally, add the two percentages. The total percentage must equal at least 100 percent to qualify an applicant for that grade level. For example, an applicant for a GS-184, Sociology, position has successfully completed 60 undergraduate semester hours, including 24 semester hours in sociology, and, in addition, has 2 full-time years of appropriate experience that demonstrates that the applicant possesses the necessary analytical and communication skills. The applicant would qualify for GS-5, since the 60 semester hours (the equivalent of 2 years of undergraduate education, or 50 percent of the total requirement) were supplemented by 2 additional years of appropriate experience that provided the remaining 50 percent of the total required education and experience.

*Specialized Experience:* Experience that equipped the applicant with the particular knowledge, skills, and abilities to perform successfully the duties of the position, and that is typically in or related to the work of the position to be filled. To be creditable, specialized experience must have been equivalent to at least the next lower grade level in the normal line of progression for the occupation in the organization.

*Superior Academic Achievement:* The superior academic achievement provision is applicable to all occupations covered by this standard. See the "General Policies and Instructions" for specific guidance on applying the superior academic achievement provision.

*Graduate Education:* Completion of graduate level education in the amounts shown in the table, in addition to meeting the basic requirements, is qualifying for positions at grades GS-7 through GS-11, and GS-12 research positions if it provided the knowledge, skills, and abilities necessary to do the work. One year of full-time graduate education is considered to be the number of credit hours that the school attended has determined to represent 1 year of full-time study. If that number cannot be obtained from the school, 18 semester hours should be considered an academic year of graduate study. Part-time graduate education is creditable in accordance with its relationship to a year of full-time study at the school attended.

*Research Positions:* Positions that primarily involve scientific inquiry or investigation, or research-type exploratory development of a creative or advanced scientific nature, where the knowledge required to perform the work successfully is typically and primarily acquired through graduate study (master's or equivalent degree for GS-11, Ph.D. or equivalent for GS-12). The work is such that the academic preparation will equip the applicant to perform the full range of professional work of the position after a short orientation period.

1. Qualification on the basis of education--Applicants for such research positions can be considered qualified for GS-11 if they possess an appropriate master's or equivalent graduate degree, and qualified for GS-12 if they possess a Ph.D. or equivalent doctoral degree.
2. Qualification on the basis of experience--Applicants who furnish positive evidence that they have performed highly creative or outstanding research that has led or can lead to major advances in a specific area of research, to a major advance in the discipline or field of science involved, or to major advances in science in general, can be rated under this provision for highly demanding research positions requiring similar abilities. Under these circumstances, applicants can be rated eligible for the next higher grade level above that for which they would normally be rated, provided they have not been rated eligible at this higher grade on the basis of meeting the graduate study requirements described in paragraph 1 above. To receive this rating, the work must have been creative in the sense that it developed a basic principle, product, concept, method, approach, or technique, or provided a body of basic information that opened the way for a major advance in the discipline or field of science involved, or to advances in science in general, by providing a method of solving other problems, opening areas of research, or providing the means of exploiting the application of science in a major area.

Applicants cannot receive an "extra" grade for education, and an additional "extra" grade for appropriate experience.

*Combination of Graduate Education and Professional Experience:* Combinations of successfully completed graduate level education and specialized experience may be used to meet total experience requirements. Only graduate level education in excess of the amount required for the next lower grade level may be combined with experience. For example, an applicant with 6 months of appropriate experience equivalent to GS-7 (50 percent of the experience requirement for GS-9) and 27 semester hours of appropriate graduate education (50 percent of the education requirement for GS-9, in excess of that required for GS-7) would be qualified for a GS-9 position (assuming that there is no evidence that the attended college or university requires more than 18 semester hours as equivalent to a year of graduate study).

## **USING SELECTIVE FACTORS FOR POSITIONS COVERED BY THIS STANDARD**

There are a variety of situations where agencies would be warranted in limiting consideration to applicants who possess the particular qualifications required to perform the work of positions covered by this standard. For example, an agency may require specific kinds of training appropriate for filling positions concerned with scientific research and development activities, or may require specific educational courses or combinations of courses (where the individual occupational requirements permit applicants to qualify based on several combinations of educational course work) to meet other specialized agency requirements. An agency filling an international economist

position may require knowledge of international economics. In this case, since applicants can qualify on the basis of education, the agency may require certain types of educational courses. Similarly, in some cases, consideration may be limited only to those applicants who possess an appropriate license, registration, or certification, if possession of such is determined to be necessary for carrying out the responsibilities of a position and/or required by statute.

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## OCCUPATIONAL COVERAGE

A list of the occupational series covered by this qualification standard is provided below. All occupational series covered by this standard have individual occupational requirements in Section IV-B of the **Operating Manual for Qualification Standards for General Schedule Positions**. [Refer to the Index for links.](#)

GS-020 Community Planning  
GS-101 Social Science  
GS-110 Economist  
GS-130 Foreign Affairs  
GS-131 International Relations  
GS-140 Workforce Research and Analysis  
GS-150 Geography  
GS-170 History  
GS-180 Psychology  
GS-184 Sociology  
GS-185 Social Work  
GS-190 General Anthropology  
GS-193 Archeology  
GS-401 General Natural Resources Management and Biological Sciences  
Series  
GS-403 Microbiology  
GS-405 Pharmacology  
GS-408 Ecology  
GS-410 Zoology  
GS-413 Physiology  
GS-414 Entomology  
GS-415 Toxicology  
GS-430 Botany  
GS-434 Plant Pathology  
GS-435 Plant Physiology  
GS-437 Horticulture  
GS-440 Genetics  
GS-454 Rangeland Management  
GS-457 Soil Conservation  
GS-460 Forestry

GS-470 Soil Science  
GS-471 Agronomy  
GS-480 Fish and Wildlife Administration  
GS-482 Fish Biology  
GS-485 Wildlife Refuge Management  
GS-486 Wildlife Biology  
GS-487 Animal Science  
GS-510 Accounting  
GS-511 Auditing  
GS-512 Internal Revenue Agent  
GS-601 General Health Science  
GS-630 Dietitian and Nutritionist  
GS-631 Occupational Therapist  
GS-633 Physical Therapist  
GS-635 Kinesiotherapy  
GS-637 Manual Arts Therapist  
GS-638 Recreation/Creative Arts Therapist  
GS-639 Educational Therapist  
GS-644 Medical Technologist  
GS-665 Speech Pathology and Audiology  
GS-690 Industrial Hygiene  
GS-696 Consumer Safety  
GS-801 General Engineering  
GS-803 Safety Engineering  
GS-804 Fire Protection Engineering  
GS-806 Materials Engineering  
GS-807 Landscape Architecture  
GS-808 Architecture  
GS-810 Civil Engineering  
GS-819 Environmental Engineering  
GS-830 Mechanical Engineering  
GS-840 Nuclear Engineering  
GS-850 Electrical Engineering  
GS-854 Computer Engineering  
GS-855 Electronics Engineering  
GS-858 Biomedical Engineering  
GS-861 Aerospace Engineering  
GS-871 Naval Architecture  
GS-880 Mining Engineering  
GS-881 Petroleum Engineering  
GS-890 Agricultural Engineering  
GS-892 Ceramic Engineering  
GS-893 Chemical Engineering  
GS-894 Welding Engineering  
GS-896 Industrial Engineering  
GS-1015 Museum Curator

OPM QUALIFICATION STANDARDS

GS-1221 Patent Adviser  
GS-1223 Patent Classifying  
GS-1224 Patent Examining  
GS-1226 Design Patent Examining  
GS-1301 General Physical Science  
GS-1306 Health Physics  
GS-1310 Physics  
GS-1313 Geophysics  
GS-1315 Hydrology  
GS-1320 Chemistry  
GS-1321 Metallurgy  
GS-1330 Astronomy and Space Science  
GS-1340 Meteorology  
GS-1350 Geology  
GS-1360 Oceanography  
GS-1370 Cartography  
GS-1372 Geodesy  
GS-1373 Land Surveying  
GS-1380 Forest Products Technology  
GS-1382 Food Technology  
GS-1384 Textile Technology  
GS-1386 Photographic Technology  
GS-1420 Archivist  
GS-1501 General Mathematics and Statistics  
GS-1510 Actuarial Science  
GS-1515 Operations Research  
GS-1520 Mathematics  
GS-1529 Mathematical Statistics  
GS-1530 Statistics  
GS-1550 Computer Science  
GS-1701 General Education and Training  
GS-1710 Education and Vocational Training  
GS-1720 Education Program  
GS-1725 Public Health Educator  
GS-1730 Education Research  
GS-1740 Education Services  
GS-1750 Instructional Systems

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