

Research Program Specialist I (GIS)

Knowledge, Skills, Abilities, and Personal Characteristics Statements

1	Knowledge of research design methods to conduct research projects and evaluation studies.
2	Knowledge of the scientific method and its appropriate uses and applications in order to develop and critique research projects and assignments.
3	Knowledge of data collection methods (e.g., survey, interviews) to ensure the proper use and validation of the research results.
4	Knowledge of appropriate sampling techniques required to produce statistically reliable and valid research results.
5	Knowledge of practices required to ensure and maintain data security, including securely transmitting confidential data.
6	Ability to conduct a literature review using various resources (e.g., library, internet) to compile information and data from academic journals, research publications, and online sources.
7	Ability to design and develop research methodologies required to ensure the collection and analysis of appropriate, meaningful, and unbiased data.
8	Ability to conduct program evaluation studies including the systematic analysis of program requirements, goals, and outcomes to ensure program effectiveness.
9	Ability to identify required data, information, materials, and resources needed to complete a project.
10	Ability to present complex quantitative data visually using charts, graphs, tables, and other appropriate methods in order to complete reports and/or develop presentations.
11	Knowledge of principles and concepts of geography, cartography, geospatial processing, and computer mapping to conduct research and respond to policy questions.
12	Knowledge of the principles and procedures of geospatial data collection, management, and analysis to conduct research and respond to policy questions.
13	Ability to use the principles and procedures of geospatial data collection, management, and analysis to conduct research and respond to policy questions.
14	Knowledge of advanced automated processes for capturing data and applying quality control procedures to design and implement research projects.
15	Ability to identify spatial data needs for complex analyses and to assess the adequacy of existing data to meet these needs.
16	Ability to verify, validate, and assess the accuracy of geospatial data to meet project needs.

17	Knowledge of web-based Geographic Information Systems (GIS) principles to develop, collect, and disseminate geospatial data and services.
18	Ability to utilize web-based Geographic Information Systems (GIS) to display geospatial data and analytical results.
19	Ability to design geospatial databases for standardization and usability.
20	Ability to present complex quantitative and geospatial data visually using maps in order to complete reports and/or develop presentations and posters.
21	Knowledge of spatial analysis techniques (e.g., overlay, network analysis, cost surfaces, 3D modeling) to address important policy, program evaluation, and other research questions.
22	Knowledge of basic arithmetic techniques (e.g., addition, subtraction, multiplication, division) to analyze numerical data.
23	Ability to perform basic arithmetic techniques (e.g., addition, subtraction, multiplication, division) to analyze numerical data.
24	Knowledge of descriptive statistical analysis techniques (e.g., mean, median, mode) to formulate conclusions and recommendations.
25	Ability to use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to research problems.
26	Knowledge of problem-solving techniques and processes to facilitate the identification and resolution of issues related to the completion of work assignments.
27	Ability to determine how a system or process works and how changes in inputs, operations, and environmental conditions would affect outcomes.
28	Ability to use sound research methods and principles to reach conclusions and/or make recommendations.
29	Ability to analyze and evaluate the impact of programs, procedures, business processes, and/or policies.
30	Ability to analyze statistical data to reach sound conclusions and/or make recommendations.
31	Ability to interpret data obtained through formal data gathering techniques (e.g., surveys, questionnaires, and interviews).
32	Ability to verify the validity and accuracy of data collected.
33	Ability to proofread and edit written materials (e.g. memos, letters, reports, procedures) to ensure that they are accurate and clear.
34	Ability to read and comprehend complex or technical information in order to interpret or explain it to others.
35	Knowledge of proper spelling, grammar, punctuation, and sentence structure to ensure that written materials are complete, concise, and error-free.
36	Ability to communicate information clearly and concisely, in writing, to audiences with varying levels of understanding.

37	Ability to write reports, policies, and procedures using proper grammar, punctuation, and sentence structure.
38	Knowledge of time management techniques to provide for efficient prioritization and completion of projects and assignments.
39	Ability to be objective and flexible to adapt to changes in priorities and work assignments to ensure projects are completed on time and within budget.
40	Ability to work on multiple projects and assignments simultaneously to finish assignments on time and within budget.
41	Ability to complete work under critical timelines to meet project objectives and deadlines.
42	Ability to develop and prioritize short-range and long-range plans and schedules that coordinate with operating goals and objectives of the department.
43	Ability to work independently to complete projects in a timely manner.
44	Ability to work as a member of a team to complete projects in a timely manner.
45	Ability to verbally communicate with others to convey information effectively.
46	Ability to develop and maintain cooperative relationships with other entities (e.g., governmental agencies, advocates, the public) to promote an environment that is conducive to carrying out research.
47	Ability to communicate with internal and external stakeholders with diplomacy and tact, especially concerning difficult and sensitive issues.
48	Ability to facilitate meetings and discussions in a manner that ensures participants remain focused on the intended topic and encourages active participation.
49	Ability to provide clear and accurate verbal instructions and directions to individuals with various levels of technical expertise.
50	Ability to access and process data located on databases, servers, the cloud, and/or desktop PCs.
51	Knowledge of geospatial software (e.g., ArcGIS, InterGraph, ArcPad, ERDAS, Google Earth) to capture, analyze and display spatial data.
52	Ability to use geospatial software (e.g., ArcGIS, InterGraph, ArcPad, ERDAS, Google Earth) to capture, analyze and display spatial data.
53	Knowledge of geospatial hardware devices (e.g., Global Positioning System, mobile Geographic Information Systems, plotters, range finders, base stations) to capture, analyze and display spatial data.
54	Ability to use geospatial hardware devices (e.g., Global Positioning System, mobile Geographic Information Systems, plotters, range finders, base stations) to capture, analyze and display spatial data.
55	Ability to use word processing software (e.g., Microsoft Word) to prepare correspondence and reports.
56	Ability to use spreadsheet software (e.g., Microsoft Excel) to prepare spreadsheet summaries and reports.

57	Ability to use database software (e.g., Access, Structured Query Language [SQL] Server, Oracle) to store and manage data.
58	Knowledge of various data software programs (e.g., SAS, SPSS, Access, Excel) to aid in statistical analysis of data.
59	Ability to use electronic mail and calendaring software (e.g., Microsoft Outlook, GroupWise) for e-mail and calendaring purposes.
60	Ability to function as a technical lead for complex projects to ensure their timely completion.
61	Ability to provide mentoring to staff to improve performance and productivity.
62	Ability to recognize when issues, activities, and/or decisions need to be elevated to management.
63	Ability to maintain high ethical standards in completing all assignments and projects.