
University of California Los Angeles Job Description

Title:	PROGRAMMER/ANALYST IV
Approved Working Title:	Senior Data Manager

Job Summary

Job Summary Statement:	<p>Reporting directly to the Managing Director of the Higher Education Research Institute (HERI), the Senior Data Manager is solely responsible for determining the development and maintenance of the Higher Education Research Institute's research databases. Also determine structure of and programs extensive reporting of survey results. Conceive, program syntax for, and perform advanced data analysis on those datasets. Also contribute towards research design conducted under the Cooperative Institutional Research Program (CIRP) umbrella at Higher Education Research Institute in the Graduate School of Education & Information Studies (GSE&IS). Primary responsibilities include: database management, data analysis and reporting, as well as create normative files using appropriate methodological and statistical techniques. Survey projects currently include: the CIRP Freshman Survey that contains 46 years of data on over 15 million college students, the Your First College Year Survey, the Diverse Learning Environments Survey, the College Student Survey, and the triennial Higher Education Research Institute Faculty Survey. Higher Education Research Institute is an interdisciplinary center for research, evaluation, information, policy studies, and research training in postsecondary education. Higher Education Research Institute's research program covers a variety of topics including the outcomes of postsecondary education, leadership development, faculty performance, federal and state policy, and educational equity. The Senior Data Manager will supervise a Programmer Analyst. The Senior Data Manager is semi-autonomous, and employee is solely responsible determining and maintaining management of extensive databases, including data integrity and accuracy of statistical analyses, which are provided annually to approximately a thousand colleges and universities throughout the United States.</p>
Type of Supervision Received/Exercised:	<p>Work is assigned directly by the Managing Director and reviewed periodically with the employee as to meeting deadlines. Actual work involved is semi-autonomous, and employee is solely responsible for data integrity and accuracy of statistical analyses, which are provided to approximately a thousand colleges and universities throughout the United States. In-house and within-department personnel exist as resources for normal procedures and policies and as problem-solvers for special needs.</p>

Core Functions & Duties

% of Time	Core Function	Function Letter	Duty Statements
35	Data Management	A	<p>A1. Determines HERI data management policy and implements data storage procedures that emphasize security for over 13 million individual respondents over 40 years of data collection. Ensures that HERI data management policy data storage compliance with UCLA IRB and federal research guidelines. Sole owner and developer of crosswalk databases that securely isolate identifiable characteristics as per HERI , UCLA, and Federal guidelines(E)</p> <p>A2. Conceives of, writes, and maintains programs that create appropriate coding schemes for variables and surveys ensuring applicability with longitudinal data collection. Communicates coding scheme with survey vendor, HERI researchers, and institutional representatives. Creates programs and codebooks that apply proper coding to data.(E)</p> <p>A3. Conceives of, writes, and runs programs that test and verify the integrity of the data when transmitted from the vendor, and before surveys go live with institutions. Identifies any problems and offers programming solutions to resolve anticipated problems.(E)</p> <p>A4. Maintains extensive library of hundreds of databases for HERI projects. Assists HERI and outside scholars in the use of such databases. Controls access to datasets as per HERI policies. Converts data into SPSS format for analysis, and other formats (SAS, SYSTAT, etc) as needed.(E)</p> <p>A5. Creates annually trends databases (merges) on schedule for each of the longitudinal projects.(E)</p> <p>A6. Creates databases in SPSS or other formats as needed for outside researchers in accordance with the HERI Data Access Committee's determination.(E)</p> <p>A7. Creates databases in SPSS or other formats as needed appropriate for training purposes.(E)</p> <p>A8. Determines policy for and implements data storage procedures for databases that contain the operations data for HERI, including institution names, names and contact information for institutional representatives, and details concerning survey participation such as if and when registered for survey participation, paper versus web, etc.(E)</p> <p>A9. Communicates with business operations of HERI concerning registration information to ensure accurate and timely billing based upon these data. Ensures proper communication from vendor registration on the CIRP Web Portal to HERI operations files.(E)</p>

20	Reporting	B	<p>B1. Conceives of, writes, and maintains programs to generate the reports for each survey project for normative datasets and individual campuses in numerical and graphical forms.(E)</p> <p>B2. Processes reports for multiple campuses, often in the hundreds, resulting in an electronic format that can be transmitted to campuses.(E)</p> <p>B3. Conceives of, writes, and maintains programs that generate customized reports for HERI researchers upon demand to support research projects. Assists in formulating research questions behind the reports. (E)</p> <p>B4. Conceives of, writes, and maintains programs that generate reports in publishable formats for monographs, publications, and presentations (E)</p> <p>B5. Determines new methods and designs of reporting results to campuses, consortia, or another educational enterprises. Writes programs to create these new reports.(E)</p>
20	Advanced Data Analysis	C	<p>C1. Using demographic characteristics of the particular respondents to each survey, determines appropriate weighting procedures to arrive at the national normative profile. Also, using the institutional participation rate for each survey project determines appropriateness of institutional inclusion in the national normative profile. Writes programs to apply appropriate weighting procedures.(E)</p> <p>C2. Provides consultation to HERI researchers as to proper statistical analysis to use given the research question under consideration and the nature of the data. Advises on or provides programming to conduct statistical analysis.(E)</p> <p>C3. Responds to inquiries from CIRP users and institutional representatives with detailed questions regarding special data analyses on their own CIRP data. Provides guidance on programming statistical analysis when needed.(E)</p> <p>C4. Creates programs that examine survey results to determine validity, especially examining potential effects of survey design on results.(E)</p> <p>C5. Plans, programs, and conducts data analysis for HERI researchers using the most up-to-date advanced techniques. Uses and advises use on appropriate data analysis software packages for advanced analysis.(E)</p>
15	Training	D	<p>D.1 Trains HERI staff, faculty affiliates, and graduates students in the use of HERI datasets including the structure of the data and coding.(E)</p> <p>D2. Trains HERI staff, faculty affiliates, and graduates students in the use of proper advanced statistical data analysis, including programming.(E)</p> <p>D3. Teaches use of CIRP databases, including proper data management and analysis in HERI trainings (such as the CIRP Summer Institute) of outside researchers.(E)</p>

5	Computer Technology Management	E	<p>E1. Determines use of statistical packages at HERI, taking into account needs at HERI, relative utility of the packages, pricing and acceptance in the research community.(E)</p> <p>E2. Determines hardware configurations of HERI computers and servers and determines schedule of replacement.(E)</p> <p>E3. Serves as HERI contact for license agreements with software companies.(E)</p> <p>E4. Liaises with GSE&IS Educational Technology Unit (ETU) for software and hardware compatibility and purchasing issues.(E)</p> <p>E5. Implements and maintains appropriate levels of access to HERI files on the HERI server for HERI staff, affiliated faculty, and other researchers.(E)</p>
5	Administrative	F	<p>F1. As a member of HERI management team, takes part in strategic planning for the Institute including regular meetings and scheduled retreats.(E)</p> <p>F2. As a member of HERI Data Access Committee, which determines research access to HERI/CIRP datasets, advises as to applicability of research questions to available data. Establishes and maintains licensing agreements for use of HERI data with outside scholars, ensures communication of billing aspects of these agreements with the HERI business office.(E)</p> <p>F3. With CIRP staff assists in writing and evaluating responses to Requests for Proposals from outside vendors to provide survey management services to HERI.(E)</p> <p>F4. Represents HERI at educational conferences as needed, including presenting both research findings and administrative procedures to researchers and potential CIRP survey users. Assists in HERI booth at conferences.(E)</p> <p>F4. Supervises Programmer Analyst II as needed.(E)</p> <p>F5. Other duties as assigned.(E)</p>

SKACs

SKAC	Duty Reference	Req/Preferred
1. Advanced working knowledge of database management procedures and software tools to facilitate database management. Knowledge of SQL and FileMaker.	A,B	Required
2. Advanced working knowledge of the creating and maintaining of survey reports that feature numerical and graphical quantitative results.	A,B	Required
3. Working knowledge of Fortran and VBA or .net to create complex online and offline reports using extensive datasets.	A,B	Required
4. Expert working knowledge of basic and advanced statistical procedures and the corresponding underlying statistical concepts.	C	Required

5. Expert working knowledge of SPSS basic and advanced packages (including, but not limited to, Regression, Missing Data and Complex Samples).	C	Required
6. Working knowledge of SAS, SYSTAT and other statistical analysis programs.	C	Required
7. Working knowledge of web servers (e.g., Apache) and web programming (e.g., html, php, perl, etc.).	A,B,F4	Required
8. Demonstrated working knowledge of institutions of higher education and their structures and organizations sufficient to cooperatively and collegially work with representatives of the colleges and universities that use CIRP surveys.	All	Required
9. Background and experience in writing or contributing to the writing of educational research reports, proposals, research briefs, presentations, and/or other related documents.	All	Required
10. Ability to create and edit a variety of technical material for completeness, consistency, logic, and organization.	All	Required
11. Demonstrated skill in the development and use of materials for training/development and technical assistance.	All	Required
12. Demonstrated ability to accurately create coding schemes for large longitudinal datasets.	A,C	Required
13. Ability to interpret quantitative data to report Higher Education Research Institute findings to a variety of external clients and internal researchers.	B,C,D	Required
14. Advanced knowledge of survey sampling techniques and estimates of confidence intervals.	B,C,D	Required
15. Excellent skills in oral and written English communication including as appropriate, skills in writing sections of research reports, proposals, research briefs, and other documents/products with fluency and precision.	All	Required
16. Ability to make oral group presentations to present survey information and explain the methods and the meaning of the work being performed in a coherent manner.	D,E4	Required
17. Ability and willingness to work directly and collaboratively with multilingual, multiethnic, and/or multiracial and/or other education and non-education professional and lay persons.	All	Required
18. Ability to accept delegated work, validate expectations, problem-solve obstacles, and follow-up to completion and/or report status of delegated tasks.	All	Required
19. Ability and willingness to work as an effective, collegial, contributing member of Higher Education Research Institute staff and, as may be necessary, work independently in successfully accomplishing assigned tasks.	All	Required
20. Ability to work with competing deadlines, meet fixed deadlines, manage multiple assignments, and follow through tasks to completion with attention to detail.	All	Required
21. Demonstrated ability to conduct training sessions, and/or workshops as needed.	All	Required
22. Knowledge of one of the following disciplines is strongly preferred: education, sociology, psychology.	All	Preferred
23. Detailed working knowledge of survey development and administration and associated data analysis sufficient to recommend modifications, evaluate quality, and determine ease and practicality of administration.	All	Required
24. Demonstrated ability to efficiently operate Macintosh and Windows-based computers including using the most current versions Microsoft Word, Excel, and	All	Required

