RESEARCH COMPUTING SPECIALIST

NATURE OF WORK

This is senior level professional work in providing research and/or academic computer support for a University academic department.

Employees of this class identify and analyze computer support problems and recommend and/or implement solutions to these problems related to research and/or academic activities. Work also involves advising on the availability of computer software packages, recommending hardware or software acquisition and conducting seminars. An employee of this class may be required to provide instructional support to students regarding research design, statistics and computer applications and conduct research projects. Work is normally received in the form of verbal requests for consultation indicating the nature of the problem to be solved. Work is performed under general supervision and is evaluated through discussion and observation of results obtained.

ILLUSTRATIVE EXAMPLES OF WORK

Provides computing support for departmental research and/or academic programmes; discusses computer software problems and identifies problem area; recommends and assists in implementation of solution.

Oversees the operation of an academic computer laboratory; coordinates computer lab schedule; operates computer equipment; ensures that computer equipment is properly maintained; recommends the purchase of computer supplies and auxiliary equipment.

Develops and designs the format for the acquisition of data; provides advice regarding the completeness of data for computer analysis; conducts analysis, as requested; discusses statistical results with faculty members and/or students.

Discusses computer support requirements with faculty members and research staff; reviews computer software available within University and from external sources; evaluates necessity of software purchase; makes appropriate recommendation to faculty member; reviews hardware requirements and determines suitable equipment to meet computer support needs; recommends appropriate action.

Conducts information sessions for new faculty or staff members regarding computer facilities available within the University; presents seminar to faculty and staff members to explain new or revised computer resources available.

Provides instructional support to students during formal laboratory sessions; grades laboratory reports or assignments, as required.

Advise students on various research related topics including data acquisition, sorting and coding and computer applications.

Conducts research projects; designs data acquisition forms or project procedures; conducts library research; collects data; performs data analysis; prepares computer input; reviews statistical information; prepares research reports.

Reads and studies professional literature and reports on computer technology to keep abreast of new technology and to maintain a working knowledge of the programs, packages and services offered.

Perform related work as required.

REQUIREMENTS OF WORK

Considerable experience in research computer support, research design and related statistical analysis; graduation from a four-year college or university with major course work in computer science, business, physics or statistics; or any equivalent combination of experience and training which provides the following knowledge, abilities, and skills:

Considerable knowledge of higher mathematics and the principles of the field of research in which assigned.

Considerable knowledge of the methods, materials, procedures and techniques used in research work.

Considerable knowledge of the applicability of data processing to a variety of situations and processes.

Considerable knowledge of the limitations, capabilities, uses and service requirements of electronic computer and allied equipment.

Considerable knowledge of electronic data processing coding practices necessary for programming instructions for an electronic computer and peripheral equipment.

Considerable knowledge of the practical and potential value of research and experimentation within the field involved.

Knowledge of machine language programming.

Ability to analyze and interpret complex problems in the areas of research and teaching systems and propose viable solutions.

Ability to write efficient program code to address complex requirements, using a variety of computer resources and languages.

Ability to observe, analyze techniques and procedures and to develop new techniques and procedures.

Ability to observe, analyze and report objectively the results of research experimentation.

Ability to prepare written reports of test results and analysis.

Ability to organize work independently and to complete assignments in accordance with general standards.

Ability to impart information and express ideas effectively, both orally and in writing.

Ability to deal with faculty, staff and students in a cooperative, courteous and professional manner.

Skill in the use of a variety of data processing equipment.

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Confirmed: 2004.01.05