

A. Major Duties

Typical, but not all-inclusive, duties are illustrated by performance of any combination of the following:

Performs experiments which are designed to provide answers for specific research problem areas.

Searches literature for methods to meet assignment objectives.

Selects the proper methods and procedures according to the experimental design.

Carries out measurements and analyses by applying established chemical methods.

Analyzes the results according to established principles and procedures.

Modifies methods, if necessary, to solve problems or make improvements. Devises experimental protocols to help meet program objectives.

Writes periodic laboratory reports discussing experimental procedures and results.

Maintains official laboratory notebook in accordance with good laboratory practices.

Summarizes experimental results of completed projects in the form suitable as the basis for the first draft of written reports to scientific journals.

Organizes experimental progress in the form suitable for oral presentation or posters for scientific meetings.

Undertakes routine care, maintenance, and calibration of moderately complex laboratory instruments, e.g. centrifuges, UV-VIS spectrometer, HPLC instrument, ion-selective meter.

B. Evaluation Factors

1. Knowledge Required by the Position

A professional knowledge of the principles, theories, and practices of chemistry, physics, and mathematics including calculus.

A general understanding of biophysics and biochemistry approaches and knowledge of common laboratory methods and procedures.

Skill in calibrating, maintaining, and operating moderately complex analytical instruments sufficient to independently perform measurements and analyses.

Skill in obtaining accurate and valid results when analyzing and characterizing components of biological materials by their biophysical and biochemical properties.

Skill in evaluating established methods and making minor modifications.

Ability to organize and record experimental data and write reports.

2. Supervisory Controls

Work is assigned indicating the general objectives of the experiment, the nature of the analyses or measurements to be made, and priorities. Incumbent plans and carries out experiments independently to obtain the required data and solves problems according to instructions, previous training and accepted principles. Work methods involved in implementing new procedures are discussed with the supervisor and completed work is reviewed for technical soundness and pertinence to the project objectives.

3. Guidelines

Guidelines include established methodology, manuals, technical references, precedent investigations and agency policies and regulations that are not always applicable to the work. Judgment is required in selecting the most appropriate guides and references to apply to each problem. Significant deviations from guidelines are referred to senior researchers for recommended action. The incumbent must then evaluate new methods and make adaptations or modifications to solve specific problems or meet objectives.

4. Complexity

Performs a variety of established, but rather complex procedures to prepare biological materials and obtain required biochemical and biophysical measurements for clearly defined goals. Selection of methods and procedures varies to some extent depending on the identity of the sample, its physical state, and objectives to be determined. Work can normally be done by applying established methods and procedures with minor modifications.

5. Scope and Effect

The purpose of the work is to conduct experiments, analyses and develop new methodologies which will contribute to an understanding of biological processes which are important in specific problem areas associated with the research of the laboratory.

The results of the work affect the scientific adequacy and accuracy of the research project and the research reputation of the organization.

**6. Personal Contacts and
7. Purpose of Contacts**

Personal contacts are principally with scientists within the immediate work unit or other laboratories at the location. Occasionally, contacts with scientists outside the location may be needed.

Contacts are for the purpose of obtaining, clarifying, or exchanging information regarding theoretical and problematic solutions to the experimental designs and methods, plan and coordinate work with others, receive instructions, and report progress and results of work.

8. Physical Demands

The work requires standing for prolonged periods of time.

9. Work Environment

The work is performed in a laboratory and involves regular and recurring exposure to irritant chemicals. Special safety precautions are required such as fume hoods, etc. Incumbent uses protective clothing and equipment such as safety glasses, gloves, and laboratory coats when needed.

**Chemist
GS-1320-09**

Standard Job #1320-09

C. Other Considerations (Check if applicable)

- Supervisory Responsibilities (EEO Statement)
- Training Activities - Career Intern, Student Career Experience Program
- Motor Vehicle or Commercial Driver's License Required
- Pesticide Applicators License Required
- Safety/Radiological Safety Collateral Duties
- EEO Collateral Duties
- Drug Test Required
- Vaccine(s) Required
- Financial Disclosure Required
- Special Physical Requirements/Demands
- Other:

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