

**A. Major Duties**

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

Performs a wide range of duties designed to solve complex chemical research problems.

Searches literature for principles and methods to meet assignment objectives.

Determines the proper experimental approach.

Carries out measurements and component characterization and analyses by applying established or modified 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 including discussion on experimental design, principle, procedure and results.

Evaluates the adequacy of the results for meeting objectives.

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.

Provides proper technical advice, when needed, to lower level support personnel assigned to research programs in the unit.

Keeps abreast of current scientific advancement by reading literature, review articles, and attending supervisor approved meetings, workshops, and conferences.

**B. Evaluation Factors**

**1. Knowledge Required by the Position**

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

Professional understanding of biophysics and biochemistry approaches and an advanced knowledge of sophisticated laboratory methods and procedures.

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

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

Skill in evaluating established methods and making proper modifications.

Ability to organize and record experimental data and write reports.

**2. Supervisory Controls**

The supervisor sets the overall objectives and resources available. The incumbent and supervisor, in consultation, develop the deadlines, projects, and work to be done.

Incumbent plans and carries out the assignment; resolves most of the conflicts which arise, coordinates the work with others as necessary; and interprets policy on own initiative in terms of established objectives. The incumbent keeps the supervisor informed of progress, potentially controversial matters, or far-reaching implications.

Completed work is reviewed only from an overall standpoint in terms of feasibility, compatibility with other work, or effectiveness in meeting requirements or expected results.

**3. Guidelines**

Guidelines include established methodology, manuals, technical references, precedent investigations and agency policies and regulations. Guidelines are not completely applicable or specific to the work. Judgment is required in selecting

and modifying the most appropriate guides and references for each problem area.

Significant deviations from guidelines are discussed with senior researchers for recommended action. Incumbent must evaluate new methods and make adaptations or modifications to solve specific problems or meet objectives.

**4. Complexity**

The work involves a variety of rather complex procedures, whether established or modified, to prepare biological materials and obtain needed biochemical and biophysical information for generally defined objectives.

Incumbent will need to select methods and procedures which depend on the identity of the sample, its physical state, and objectives to be determined.

Assignments normally require the application of established methods and procedures requiring frequent modification or adaptation. In planning and completing the work, the incumbent must produce the data, analyze and interpret the results, draw conclusions and report the findings.

**5. Scope and Effect**

The work involves performance and development of specific experiments, analyses and measurements in support of the research project objectives.

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

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

Personal contacts are primarily with scientists within the immediate work unit or other laboratories at the location. Contact is also made with scientists outside the location.

Contacts are for the purpose of obtaining, clarifying, or exchanging information regarding theoretical and problematic solutions to the experimental designs and methods, planning and coordinating work of others, receiving instructions and reporting 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.

**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:

September 26, 1996