

## ANALYTICAL INSTRUMENTATION SCIENTIST IV

### **Function of Job:**

Under general direction of designated supervisor, use scientific method and principles to exercise judgment within generally defined scientific practices and policies to help select and refine preferred experimental methods, techniques, and evaluation criteria. Provide technical leadership and professional expertise to analyze, propose, explore, and coordinate solutions to resolve problems in analytical projects; communicate with effective oral and written skills, presenting information relevant to projects to the administrative and research communities.

### **Characteristic Duties and Responsibilities:**

1. Operate, calibrate, and maintain sophisticated computer-controlled analytical instrumentation (e.g., scanning electron microscope, transmission electron microscope, energy dispersive spectrometer, nuclear magnetic resonance spectrometer, ultraviolet-visible spectrophotometer, Fourier-transform infrared spectrophotometer, and tandem gas-chromatograph/mass spectrometer) for material, biological, and chemical analysis. Research and develop methods and procedures for use in performing laboratory analyses.
2. Using scientific methods and principles, research, develop, and revise laboratory-related policies and safe experimental procedures for use in performing laboratory analyses.
3. Develop and present scientific information and data for use in obtaining funding for research projects. Assist in the writing of proposals and estimation of costs as requested by unit director.
4. Research and coordinate information from outside vendors for the purchase, installation, and use of equipment.
5. Provide safety guidance, training, instruction, and assistance to students, faculty, and staff regarding the operation and function of the instrumentation.
6. Maintain current knowledge as new analytical techniques and instrument accessories for the instruments become available, including research of current literature and attending professional conferences, meetings, and courses.
7. Troubleshoot instrument and methodology problems to ensure efficient operation of the instruments.
8. Supervise analytical quality control operations according to governmental procedures, including interpreting or verifying analyses and performing related examinations.
9. Consult and provide advice and guidance on designated projects for research community/clients and participate in execution of such projects.
10. Train subordinate instrumentation scientists in the theory and practices of specialized subject fields.
11. Act as liaison with other academic and research units; and state institutions, organizations, and communities to achieve goals and reach solutions as related to analytical instrumentation and its uses.
12. Perform related duties as assigned.

**Minimum Acceptable Qualifications:**

1. Bachelor's degree in chemical or biological science (or relevant science) and six years of experience in research-related use of instrumentation or a master's degree in chemical or biological science (or relevant science) and three years of experience in research related use of instrumentation.
2. Computer literacy and computer skills including use of word processing, spreadsheets, and databases.
3. Thorough knowledge of laboratory safety, equipment, techniques, procedures, and language.
4. Ability to perform scientific procedures with a high degree of accuracy and precision.
5. Ability to prepare scientifically accurate and thorough reports.
6. Effective oral and written communication skills.

**Additional Desirable Qualifications:**

1. Experience in a college/university environment.
2. Additional experience beyond minimum requirements.
3. Project management skills and/or supervisory ability.
4. Customer service experience.
5. Familiarity with instrumentation found in the employing department.

11/8/2002  
System Approval

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Effective Date

**This document is a generic classification specification of the University System of New Hampshire. Its purpose is to describe the representative responsibilities and general level of complexity, and it is not a substitute for the specific job description of the individual position**