RESEARCH ASSOCIATE III - GRADE 9

Generic Position Overview

**Family:** Natural and Applied Science

**Cluster:** (NAS9) Research Associate III

**Note:** Employees of Queen's University work in a challenging and diverse environment. Queen's is committed to encouraging the development of new skills and attributes in its workforce. It is critical that staff are able to adapt to a changing work environment and to acquire new skills as these become necessary.

Depending upon the size of the department or unit and its functional activities, incumbents who fall into this category may perform all of the duties listed below or, in the case of large departments or units, may be assigned to designated specialized functions.

**Generic Position Summary:** The incumbent conceptualizes, recommends, and implements research plans, independently developing procedures and carrying out experiments. Observe and record results, and make adjustments to protocols as necessary. Advise supervisor regarding potential initiatives in incumbent's field of expertise. Analyse results, usually using computer programs. Incumbent may be required to design and write specialized programs for processing data. Present results, including contributing to, co-authoring, or authoring articles or reports. May work with hazardous materials, equipment, or animals. Supervise students and staff and provide expert advice and guidance. Perform human resources duties including hiring junior staff and conducting training sessions. Delegate and coordinate workflow. Manage physical space and equipment, ensuring safety and maintenance of instruments, and upgrade computer systems in order to make the most of new technologies. May design and build apparatus and systems to meet the needs of the research project. Act as liaison to outside labs and agencies and formulate new hypotheses or adjust current research plans as necessary in light of new information.

**Primary Duties And Responsibilities:** Conceptualize, design, recommend, and implement innovative research plans and experimental protocols using scientific methods and principles, in which overall goals are set by the supervisor, but approaches and procedures are developed by the incumbent. Provide expert advice to supervisor regarding potential initiatives in the incumbent's field of expertise, and coordinate resulting adjustments as appropriate. Personal judgement and initiative is used in adapting protocols to meet the needs of the project and to test new hypotheses. Incumbent exercises a fairly high degree of autonomy. Carry out complex experiments using advanced techniques, observe, and record results. May coordinate clinical trials. May entail working with hazardous materials, equipment, or animals.
Prepare results for presentation and publication. Analyse results using computer programs. Incumbent may be required to write specialized programs for the analysis of data. Contribute to, co-author, or author papers or reports, or be co-named on patents. Prepare and deliver presentations at meetings and conferences. Do background research such as literature searches. Prepare grant proposals.

Supervise students and research staff. Advise, guide, and provide consultation. Advise researchers on techniques and interpretation of results, and ensure safety in lab. Advise supervisor on status of research. Perform human resources duties such as hiring and performance evaluation. Delegate tasks and coordinate workflow. Conduct training sessions to ensure that all staff rapidly attain an understanding of their research.

Manage lab, including physical space and equipment. Install and ensure maintenance of instruments. Oversee safety and proper disposal of hazardous wastes. Design and build apparatus and systems for research purposes. Troubleshoot and debug systems as required. Allocate lab resources and monitor budget. Manage day-to-day running of lab.

Act as liaison to outside agencies and other labs. Ensure the exchange of information and results in order to foster collaborative research efforts. Obtain new ideas and formulate hypotheses based on information gathered.

Undertake other duties or special projects as required in support of the unit or department.

**Required Background:** In most positions, a PhD in a relevant field with several years of related experience. Some positions may require special certification, such as nursing or engineering, usually a Master's degree with proven expertise in a field. Safety-related training will be provided on-the-job. Consideration will be given to an equivalent combination of education and experience.

**Special Skills:** Typical skills that *may* be required in the performance of job duties include:

Skills in the performance and interpretation of experiments (technical/analytical). Proven competence and originality in fundamental research. Statistical and mathematical skills and analysis using complex theorems and concepts. Appropriate handling of specimens, materials, animals, equipment, and wastes (in accordance with safety and ethical guidelines).

Judgement, initiative and foresight in order to design and implement novel ways of solving a problem and choosing the best protocol for performing an experiment.

Communication and interpersonal skills to facilitate information sharing. Technical/scientific writing skills in order to compose reports and
presentations.

Computer skills. Some positions may require ability to write analysis programs, maintain software and hardware and design new systems that take advantage of emerging and existing computer technology.

Supervisory and leadership skills to provide instruction, advice and guidance to staff, students, and colleagues.

**Decision Making:** Examples of the types of decisions regularly made on the job:

- Conceptualize and recommend research plans. Determine optimum protocols, methods, or techniques to employ in an experimental investigation. Adapt procedures to test a new hypothesis or to gain perspective. Evaluate and choose amongst design alternatives, balancing factors such as cost, complexity, and reliability.

- Determine design and train in the operation of new apparatus and equipment. Determine when equipment needs servicing and if it can be done by a member of the research team (including oneself) or if manufacturer or repair personnel should be contacted. Make equipment acquisition recommendations.

- Determine content and draft documents such as scientific reports, articles, abstracts, and grant proposals.

- Answer questions regarding the lab or research project, or redirect inquiries if necessary. Make recommendations on research questions and suggest appropriate techniques or protocols.

- Make recommendations regarding the lab budget and allocation of resources.

- Prioritize time and resource use to meet needs of entire research group and coordinate workflow of all staff. Make human resources decisions such as hiring. Design training seminars.

- Determine whether a particular procedure falls within ethical guidelines, and make concessions and adjustments as necessary and when possible.

- Determine appropriate way to dispose of hazardous wastes and react in an emergency situation to minimize damage and avoid risk.

**Supervisory Responsibilities:** Supervisory duties may include delegating work, hiring/firing, and conducting performance appraisals.

*Last update: December, 1999*