Research Scientist/Engineer Career Path Guidelines - Competencies Arranged by Function

	S/E 1 9692/1492	S/E 2 9693/1493	S/E 3 1494	S/E 4 1495	S/E Senior 1496	S/E Principal 1497	S/E Sr. Principal 1498
Function	**Technical Problem Solving and Innovation**						
Problem-Solving	Solves well-defined problems using accepted methods & techniques; defines & improves practices from experiences on small projects. Assignments require investigation of a limited number of variables with few complex features.	Evaluates, selects & applies standardized scientific/ engineering procedures & techniques requiring investigation of a limited number of variables.	Seeks continual improvement of work practices from experiences with moderate-sized projects. Assignments are of moderate complexity involving potentially conflicting requirements; identifies problems & related technical issues leading to long-term generic solutions.	Identifies root causes of technical or quality problems. Applies independent problem solving requiring the application of existing or emerging scientific/ engineering knowledge.	Independent problem solving requiring the application of existing & emerging scientific/ engineering knowledge.	Applies extensive & diversified knowledge of scientific research or engineering principles & practices in broad areas.	Applies extensive & diversified knowledge of scientific research or engineering principles & practices in broad areas.
Innovation	Makes technical contributions to project tasks; develops extensions to existing methods.	Contributes to ideas & methods for the expansion of existing, or development of, new research efforts. Contributes to intellectual development activities.	Develops extensions to existing methods/protocols. Contributes to intellectual development activities; may lead a portion of the activity.	Develops innovative extensions to accepted methods; may develop new research methods; extends technology into new application areas. Contributes or leads in major intellectual development activities.	Develops new research & engineering methods/ approaches; serves as a key leader in extending critical technical capabilities. Leads the development of intellectual property.	Develops unique approaches/ standards/methods for conducting research; develops highly advanced technologies, products, scientific principles, theories & concepts. Pushing existing technical/ scientific research into new frontiers; research has substantial impact that extends knowledge & understanding. Selects/identifies new areas of investigation in order to further the Department's/UW's research mission.	May create new science and/or technologies, and extend them into new applications; develops potential research areas. Contributes inventions, new designs or techniques that are of material significance in the solution of important problems. Identifies, proposes, and leads new strategies/ initiatives that are critical to the UW.

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Function	**Project Planning & Management**						
Size & Complexity	Performs tasks/ projects of a limited scope under limited supervision; demonstrates ability to work independently.	Performs tasks/ projects of a larger scope; may lead specific tasks within the project scope.	Manages projects of moderate size & scope; makes substantial contributions to determining feasibility of goals/objectives.	Manages multiple or significant projects which may require use of sophisticated project planning techniques.	Manages technically complex projects (high technical impact or risk) which involve multiple organizations and/or disciplines.	Manages projects of major strategic value to UW which enhance the university's reputation for technical expertise.	Manages projects of major strategic value to UW which enhance the university's reputation for technical expertise.
Funding Contributions	No defined role in identifying/securing research funding; successful performance of project related tasks provides support to on-going funding efforts.	Takes responsibility for assuring quality, cost effectiveness & timeliness for small projects. Assists in procurement of additional/new funding through contributions to technical proposal preparation and/or presentations.	Maintains external research relationships to identify & develop new funding sources.	Initiates new project concepts & seeks funding sources; identifies grant/project extensions & persuades customer/ grant sponsor to fund.	Identifies & leads research funding activities. Reputation leads to ability to attract significant funding.	Plays a lead role in the identification/acquisition of research funding. Reputation leads to ability to attract major funding.	Leads the development & implementation of new and/or expanded technical capabilities that will impact future research projects/ funding. Provides the University with a distinct competitive advantage in procuring major new/ continued funding.
Planning	Implements established systems/ approaches for moderately difficult tasks.	Learns methods for planning, including assessment of cost, scope & schedule against plan.	Creates, monitors & implements effective plans; contributes to development of proposals, and may make presentations.	Develops technical proposals & makes presentations to potential customers/ grant sponsors.	Participates in strategic planning; directs/participates in major proposal preparation & presentation.	Directs the preparation of major proposals & presentations.	Proposes & leads new initiatives involving multidisciplinary & multijurisdictional initiatives; directs the preparation of proposals & presentations.
Project Scoping		Scopes tasks & develops approaches for moderately difficult tasks.	Takes lead for scoping tasks/projects; assembles research team members. Sets technical approach for solving problems & meeting customer/grantor needs.	Evaluates proposed or on-going projects; interfaces with customer/grant sponsor and UW management for existing/proposed projects. Project results may impact UW research mission; results are visible/ impactful in peer community.	Project results impact UW research mission; results are usually visible/ impactful at national level.	Widely recognized by key customers/grant sponsors as being central to their mission. Project results have significant impact on UW research mission; results usually visible/impactful at national/ international level.	Guides programs of national or international significance. Project results have significant impact on UW research mission; results usually visible/impactful at national/ international level.

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Function				**Leadership/Technical Influence/Networking**			
Team Participation	Works effectively as a member of a team under technical guidance of seasoned staff.	Monitors the work of junior staff to ensure that correct procedures are followed; provides direction to assure completion of technical tasks & projects.	Monitors the work of others & redirects efforts to achieve task/project objectives or enhance quality.	Mentors/trains staff in development of technical skills.	Provides intensive mentoring/training of senior research staff; utilizes individuals on projects to optimize their technical strengths to best meet customer/ grantor needs.	Directs technical performance of several groups or teams which may be interdepart-mental and/or interdisciplinary; encourages staff innovation.	Directs technical performance of multiple groups or teams which are interdepartmental and/or interdisciplinary; encourages staff innovation.
	May guide the work of co-workers, students, research aides/ assistants, technicians or other support staff to achieve specific assignments.	Interacts in a collaborative manner with other team members to accomplish organizational goals.	Mentors junior staff in development of technical, project and business development skills.	Provides major input to staffing of overall project teams; builds team & staff to optimize efficiency & cost effectiveness.	Assists in defining staff needs, selection/ assessment criteria, and hiring process.	Defines staff needs, selection/assessment criteria, and hiring process for senior research staff.	Defines staff needs, selection/assessment criteria, and hiring process for senior research staff.
	Establishes productive relationships with co-workers & customers to accomplish team objectives.			Leads interdisciplinary project teams; identifies & evaluates candidates for research positions.	Integrates project staffing decisions with overall technical strategy; uses national network to identify high caliber research talent.	Assists in defining the technical appraisal process for research staff.	
Technical Influence	Contributes ideas and comments to proposals, plans and other research development activities.	Assists in preparation of reports, papers, presentations, new proposals, etc., and may collaborate on some; presents papers at technical meetings.	Sought out for contributions to reports and publications; author/co-author on papers, proposals, presentations & reports; gives invited papers.	Chairs sessions at technical meetings; gives invited papers; participates in external seminars, workshops, professional societies & committees.	Organizes & chairs sessions at technical meetings and presents invited papers.	Presents papers, leads symposia & chairs committees; publications & presentations establish "national agenda" for research work in area of specialization.	Frequently asked to present papers, lead symposia, & chair committees at national/ international levels.
	Contributes data/ findings for use in reports, documents, or oral/written presentations.	Provides contributions which influence important customer decisions.	Influences important customer & UW decisions.	Identifies, initiates and follows through on research opportunities; impacts customer decisions & strategies.	Significant involvement in external seminars, workshops, professional societies & committees.	Participates on advisory/policy boards, journals & societies with national/ international focus.	Establishes new scientific/technical direction resulting in new fields of study.
	May provide ideas to improve efficiency at group level.	Provides ideas to improve efficiency at group level.	Provides ideas to improve organizational efficiency at group and department levels.	Provides innovative problem-solving approaches to enhance organizational capabilities.	Develops & initiates technical standards through interactions with professional societies & key customers.	Serves as peer reviewer of major technical programs.	Participates on advisory/policy boards, journals & societies with national/ international focus.

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Function	**Leadership/Technical Influence/Networking (cohntinued)**						
Technical Influence (continued				Serves as a resource to Department & UW; influences strategic customer decisions; may influence decisions beyond immediate customer/grantor.	Serves as an influential resource to UW and its customers for problem resolution, meeting client needs, and for identifying research opportunities.	Primary resource to UW & customers in identifying future problems, research trends & opportunities.	Influences national/ international profession through significant scientific discovery, invention & technical innovation.
Networking	Networks primarily within own technical peer group.	Has established network in internal peer group; starts becoming part of identifiable external peer network	Recognized for technical contributions by external peer network.	Uses peer network to expand technical capabilities & identify new research opportunities.	Networks nationally; may receive awards at national level.	Networks nationally & internationally; receives prestigious awards, rank, or position in technical societies.	Networks nationally & internationally; receives prestigious awards, rank, or position in technical societies.

	S/E 1 Grade 6	S/E 2 Grade 7	S/E 3 Grade 8	S/E 4 Grade 9	S/E Senior Grade 10	S/E Principal Grade 11	Grade 12
Function	**Technical Excellence**						
Technical Excellence	Knows the fundamental concepts, practices & procedures of a particular field of specialization.	Knows & effectively uses the fundamental concepts, practices & procedures of a particular field of specialization; continues development of technical expertise & knowledge through experience & application.	Establishing distinguishing technical expertise; has broad knowledge of principles, practices & procedures of field of specialization.	Recognized as a scientific/ engineering leader for relevant technical area; advances state-of-the-art research in field of specialization.	Applies advanced knowledge to the completion of complex assignments/projects. Developing as an authority with national recognition.	Applies extensive & advanced knowledge to the development of solutions to complex problems/projects that require innovation & ingenuity. Recognized as a national or international authority.	Applies extensive & advanced knowledge to the development of solutions to complex problems/projects that require innovation & ingenuity. Recognized as a national or international authority.