Full-time Job Descriptions

For more than 100 years, 3M has been a company that delivers both sustainable growth and consistent results. Today is no exception. We are making great progress toward inventing a new future for 3M - a future of faster growth and increased competitiveness, while continuing to deliver superior results. 3M captures the spark of new ideas and transforms them into thousands of ingenious products. Our culture of creative collaboration inspires a never-ending stream of powerful technologies that make life better. 3M is the innovation company that never stops inventing. 3M scientists and engineers work on cross-functional teams with technical and business representatives from corporate groups, business divisions, and manufacturing functions. For more information, visit www.3M.com or follow @3M on Twitter.

We are looking for dynamic individuals in many areas of science and engineering who have excellent communication and interpersonal skills and the ability to work on teams. 3M is seeking B.S., M.S., and Ph.D.-level candidates for a variety of full-time positions within 3M research and development laboratories, manufacturing operations, Corporate Engineering, and Optimized Operations (O2). Disciplines most in demand are Materials Science and Engineering, Macromolecular (Polymer) Science and Engineering, Chemistry, Mechanical Engineering, Chemical Engineering, Electrical Engineering, Computer Engineering, and Computer Science.

Please Note: The sample job descriptions below are not meant to be inclusive but merely indicative of typical responsibilities and technical backgrounds found among those who work at 3M.

**Senior Research Chemist/Materials Scientist**
Ph.D.-level organic chemist, computational chemist, or polymer scientist to support the development and characterization of new polymers and polymeric materials as part of ongoing research and development programs. Typical duties include hands-on synthesis of polymer systems and use of appropriate modeling and analytical tools. The ideal candidate will have demonstrated scientific excellence during the course of graduate training as evidenced by publications and presentations, have a hands-on self-starter orientation toward work, possess broad interests and a willingness to explore new areas, exhibit superior interpersonal skills, and demonstrate excellent leadership skills. Excellent written and oral communication skills are essential. Individuals with relevant internship experience preferred.

**Education:** Ph.D. in Organic Chemistry, Chemical Engineering, Polymer Science, or Materials Science

**Senior Chemist/Materials Scientist**
Experimental scientist in staff laboratory group focused on inorganic nanoparticle technology. Experience with inorganic nanoparticle preparation, chemical surface modification, or biological and sensor applications of nanoparticles are desirable. Responsibilities include planning, carrying out, and reporting original research leading to new products. Applicant should hold Ph.D. in chemistry, materials science, or related field. Candidate should be skilled in basic synthetic chemistry as exemplified by publications.

**Education:** Ph.D. in Chemistry, Materials Science and Engineering, Chemical Engineering

**Corporate Engineering**
Engineers in Corporate Engineering manage and execute capital investment projects at 3M headquarters in Saint Paul, Minnesota and at various 3M manufacturing and laboratory sites. They work with one or more divisions or laboratories to design, purchase, and install new equipment and facilities for research, development, or manufacturing. They work closely with internal customers and utilize various corporate resources as well as external suppliers to complete their projects, which can cover a broad range of disciplines and applications.

**Education:** B.S. or M.S. in Mechanical, Chemical, Industrial, Computer, or Electrical Engineering

**Control Systems Engineer**
An entry-level position in the Corporate Engineering organization. Specify, design, integrate, and start up control technologies for applications including human machine interfaces, motion control, inspection systems, PID and PLC control, and sensors. Should have excellent problem-solving skills and be a systems thinker who is results-driven, self-motivated, and team-oriented with excellent communication skills. Individuals with relevant internship or co-op experience preferred.

**Education:** B.S. in Electrical Engineering with a software emphasis

**Optimized Operations Engineer**
The Optimized Operations (O2) engineer's role is to acquire general knowledge and understanding quickly and successfully by running a series of focused projects within the 3M manufacturing environment. O2 engineers provide project and engineering leadership with mentoring to develop proficiency within the specified project utilizing established methods, practices, and concepts heavily weighted by Six Sigma methodology and focused on Lean Manufacturing Principles. The
O2 program includes specialized training at 3M headquarters in Saint Paul, Minnesota. The successful candidate continues to work at the site of O2 assignment with an enhanced ability to contribute quickly to process improvements that assist the entire supply chain in product engineering, process management, lean analysis, supply chain, or quality.

Education: B.S. or M.S. in Mechanical, Chemical, Electrical, or Industrial Engineering

Software Engineer
Application Software Product Development position with responsibilities for identifying and developing software application product opportunities, including customer contact, product design, implementation, and commercialization. Interest or experience in application software development, especially for Windows platforms and for deployment on the web. Skilled in object oriented technology, .NET, Java, C/C++, and Visual Basic. Database and user interface design and analysis experience are plusses as is experience in customer testing of GUIs. Having knowledge or skills in software engineering methodology including documentation, configuration management, and verification/validation. Should have excellent problem-solving skills and be a systems thinker who is results-driven, self-motivated, and team-oriented with excellent communication skills, excited about digitization opportunities.

Education: B.S., M.S. or Ph.D. in Computer Science, Software Engineering, Computer Engineering, or Electrical Engineering with a software emphasis

Senior Product Development Engineer
Customer-focused development of new technologies and products utilizing interface and adhesion science. Candidates should have a broad knowledge of structure-property relationships in polymeric or ceramic materials and the ability to apply that knowledge to product performance. Responsibilities would include interfacing with customers to determine customer needs, working with 3M Marketing, conceiving new product ideas, planning and carrying out research related to the development of new products, testing candidate products in realistic environments, evaluating product performance, working with multi-disciplinary and multi-functional teams to take new products to market, and establishing intellectual property positions for the company. The ideal candidate will work with a team to carry out bench-top and pilot-plant work, use DOEs, and be familiar with synthesis and characterization techniques as evidenced by presentations and publications.

Education: Ph.D. in Chemistry, Polymer Science, Materials Science and Engineering, or Chemical Engineering

Process Research Engineer
Entry-level position for a chemical or mechanical engineer. You will be working in multidisciplinary teams on longer-term research programs in support of existing products such as Post-it® notes, Scotch® tape, or Vikuiti™ film as well as new products in the areas of optical films, tapes, or electronics. Activities may include providing support in the selection and optimization of chemistries and processes (e.g., polymer extrusion, radiation curing, or precision coating), performing designed experiments, and analyzing and reporting results. You will work both in the lab on bench-top experiments as well as on larger scale, automated R&D equipment to assess the process capabilities of future manufacturing technologies. Intern or co-op experience is preferred but not required. The successful candidate must be a highly motivated, creative problem solver with a hands-on attitude and strong analytical skills.

Education: B.S. in Chemical or Mechanical Engineering

To be considered for on-campus interviews, interested candidates should submit their resumes through the 3M full-time listing on Hokies4Hire (#80805). Selected candidates will be contacted directly for the arrangement of interviews to be held 13-14 October 2016. 3M will be holding an Information Session on Monday 10 October 2016 at 7:30 pm in 103A Surge.