Chemistry

The Department of Chemistry offers a PhD in Chemistry, with research specializations available in biological, organic, inorganic, physical, and nuclear chemistry. Doctoral students often work at the interface of two or more subfields of chemistry; they may also work at the interface of different scientific disciplines. Lab assignments are therefore made according to each student's research project. Chemistry students may work in a lab outside the department or alongside students from other departments in a chemistry lab.

The department's research strengths in each subfield of chemistry are as follows:

- **Biological:** Biophysical, Bioorganic, Bioinorganic, Biochemistry
- **Organic:** Synthetic, Organometallic, Bioorganic, Physical Organic, Asymmetric Catalysis
- **Inorganic:** Coordination, Organometallic, Materials, Bioinorganic, Main Group
- **Physical:** Computational, Laser Spectroscopy, Theoretical, Magnetic Resonance
- **Interdisciplinary:** Biophysical, Physical Organic, Materials
- **Nuclear and Radiochemistry:** Stability of Nuclei, Radioisotopes for Medical Studies

Washington University’s graduate student stipends are in the top 25 percent of stipends at similar universities, and St. Louis has a low cost of living. The department has an excellent record of placing its graduates in a wide variety of jobs: academic, industrial, governmental, legal, consulting, writing/editing, and entrepreneurial.

Contact Information

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Faculty

**Chair**

William E. Buhro ([http://www.chemistry.wustl.edu/faculty/buhro](http://www.chemistry.wustl.edu/faculty/buhro))  
George E. Pake Professor of Arts & Sciences  
PhD, University of California, Los Angeles

Endowed Professors

**Joseph J.H. Ackerman** ([http://www.chemistry.wustl.edu/faculty/ackerman](http://www.chemistry.wustl.edu/faculty/ackerman))  
William Greenleaf Eliot Professor  
PhD, Colorado State University

**Robert E. Blankenship** ([http://www.chemistry.wustl.edu/people/primary-faculty/robert-blankenship](http://www.chemistry.wustl.edu/people/primary-faculty/robert-blankenship))  
Lucille P. Markey Distinguished Professor of Arts & Sciences  
PhD, University of California, Berkeley

**Regina F. Frey** ([http://www.chemistry.wustl.edu/faculty/frey](http://www.chemistry.wustl.edu/faculty/frey))  
Florence Moog Professor of STEM Education  
Associate Professor, Department of Chemistry  
PhD, University of Utah

**Jacob Schaefer** ([http://www.chemistry.wustl.edu/faculty/schaefer](http://www.chemistry.wustl.edu/faculty/schaefer))  
Charles Allen Thomas Professor of Chemistry  
PhD, University of Minnesota

**Holden Thorp** ([http://provost.wustl.edu/about/provost-thorp](http://provost.wustl.edu/about/provost-thorp))  
Provost  
Rita Levi-Montalcini Distinguished University Professor  
PhD, California Institute of Technology

Professors

**John R. Bleeke** ([http://www.chemistry.wustl.edu/faculty/bleeke](http://www.chemistry.wustl.edu/faculty/bleeke))  
PhD, Cornell University

**Peter P. Gaspar** ([http://www.chemistry.wustl.edu/faculty/gaspar](http://www.chemistry.wustl.edu/faculty/gaspar))  
PhD, Yale University

**Michael L. Gross** ([http://www.chemistry.wustl.edu/faculty/mgross](http://www.chemistry.wustl.edu/faculty/mgross))  
PhD, University of Minnesota

**Sophia E. Hayes** ([http://www.chemistry.wustl.edu/people/primary-faculty/sophia-e-hayes](http://www.chemistry.wustl.edu/people/primary-faculty/sophia-e-hayes))  
PhD, University of California, Santa Barbara

**J. Dewey Holten** ([http://www.chemistry.wustl.edu/faculty/holten](http://www.chemistry.wustl.edu/faculty/holten))  
PhD, University of Washington

**Ronald A. Lovett** ([http://www.chemistry.wustl.edu/faculty/lovett](http://www.chemistry.wustl.edu/faculty/lovett))  
PhD, University of Rochester

**Liviu Mirica** ([http://www.chemistry.wustl.edu/faculty/mirica](http://www.chemistry.wustl.edu/faculty/mirica))  
PhD, Stanford University

**Kevin D. Moeller** ([http://www.chemistry.wustl.edu/faculty/moeller](http://www.chemistry.wustl.edu/faculty/moeller))  
PhD, University of California, Santa Barbara

**Jay Ponder** ([http://www.chemistry.wustl.edu/faculty/ponder](http://www.chemistry.wustl.edu/faculty/ponder))  
PhD, Harvard University

**Demetrios G. Sarantites** ([http://www.chemistry.wustl.edu/faculty/sarantites](http://www.chemistry.wustl.edu/faculty/sarantites))  
PhD, Massachusetts Institute of Technology
Degree Requirements

PhD in Chemistry

Requirements:
- 72 semester hours of graduate credit in courses and research
- Satisfactory performance on written cumulative examinations
- Satisfactory performance on annual pre-thesis committee meetings
- Demonstration of teaching competence
- Dissertation research and preparation of dissertation
- Satisfactory performance on a final oral dissertation defense

On average, students take between five and six years to complete the PhD.

Requirements specific to Chemistry include attendance at Thursday evening research presentations during the student’s first fall semester, presenting and passing an oral examination within the first four semesters, and annual re-certification in laboratory safety.

Almost all students participate in mentored teaching experiences in their first two years and must perform satisfactorily. Students must also make annual research presentations to their advisory committee, prepare a satisfactory dissertation research proposal, and pass an oral examination.