

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% 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.

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Faculty

Chair

William E. Buhro (<https://chemistry.wustl.edu/people/william-buhro/>)

George E. Pake Professor of Arts & Sciences
PhD, University of California, Los Angeles

Endowed Professors

Gary J. Patti (<https://chemistry.wustl.edu/people/gary-patti/>)

Michael and Tana Powell Professor of Chemistry
PhD, Washington University

William B. Tolman (<https://chemistry.wustl.edu/people/william-tolman/>)

William Greenleaf Eliot Professor of Chemistry
Associate Dean of Research
PhD, University of California, Berkeley

Professors

John R. Bleeke (<https://chemistry.wustl.edu/people/john-bleeke/>)

PhD, Cornell University

Michael L. Gross (<https://chemistry.wustl.edu/people/michael-l-gross/>)

PhD, University of Minnesota

Sophia E. Hayes (<https://chemistry.wustl.edu/people/sophia-e-hayes/>)

PhD, University of California, Santa Barbara

J. Dewey Holten (<https://chemistry.wustl.edu/people/dewey-holten/>)

PhD, University of Washington

Richard A. Loomis (<https://chemistry.wustl.edu/people/richard-loomis/>)

PhD, University of Pennsylvania

Kevin D. Moeller (<https://chemistry.wustl.edu/people/kevin-moeller/>)

PhD, University of California, Santa Barbara

Jay Ponder (<https://chemistry.wustl.edu/people/jay-ponder/>)

PhD, Harvard University

Lee G. Sobotka (<https://chemistry.wustl.edu/people/lee-sobotka/>)

PhD, University of California, Berkeley

John-Stephen Taylor (<https://chemistry.wustl.edu/people/john-stephen-taylor/>)

PhD, Columbia University

Associate Professors

Vladimir B. Birman (<https://chemistry.wustl.edu/people/vladimir-birman/>)

PhD, University of Chicago

Richard Mabbs (<https://chemistry.wustl.edu/people/richard-mabbs/>)

PhD, University of Nottingham (UK)

Timothy Wencewicz (<https://chemistry.wustl.edu/people/timothy-wencewicz/>)

PhD, University of Notre Dame

Assistant Professors

Jonathan Barnes (<https://chemistry.wustl.edu/people/jonathan-barnes/>)

PhD, Northwestern University

Julio D'Arcy (<https://chemistry.wustl.edu/people/julio-m-darcy/>)

PhD, University of California, Los Angeles

Joseph Fournier (<https://chemistry.wustl.edu/people/joseph-fournier/>)

PhD, Yale University

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PhD, Yale University

Bryce Sadtler (<https://chemistry.wustl.edu/people/bryce-sadtler/>)

PhD, University of California, Berkeley

Joint Professor

Richard W. Gross (<https://chemistry.wustl.edu/people/richard-w-gross/>)

PhD, Washington University
(Internal Medicine)

Degree Requirements

PhD in Chemistry

Requirements:

- 72 semester hours of graduate credit in courses and research
- Satisfactory performance on oral cumulative examinations
- Satisfactory performance in 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 recertification in laboratory safety.

Almost all students participate in mentored teaching experiences during 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.