Join Our Community of Scholarship and Research
Join the Department of Chemistry at Villanova University for research training and advanced coursework in a broad range of specialties in Chemistry. The graduate program in Chemistry can help you advance your career in the chemical industry or help you secure a teaching position in secondary schools if you are interested in teaching. Other students complete the master’s degree in Chemistry to facilitate entry into a doctoral program, or matriculate into veterinary, dental or medical school.

Why Should You Choose Villanova?
• You can advance your career by furthering your education in a supportive, friendly environment
• Enjoy significant opportunities for laboratory research in our state-of-the-art facilities
• Obtain teaching experience as a teaching assistant
• Choose from part- or full-time programs
• Full-time students may apply for teaching assistantships, research fellowships, tuition waivers and work/study programs (March 1 application deadline)
• Learn from a combination of full-time faculty and scientists working in local industry
• If you are not interested in an M.S. degree, you may take up to three courses to increase your knowledge in a specific area of chemistry

Master of Science in Chemistry: Choose From Thesis or Non-Thesis Track
The master’s degree program at Villanova offers both a thesis and a non-thesis track for students based on their individual goals. Students in the full-time program pursue a degree with the thesis option and work under the direction of a faculty mentor. Part-time students may pursue the non-thesis option, where their work experience substitutes for the thesis.
• Thesis option requires successful completion of 30 credits, including three core courses, three electives, three research courses and a thesis preparation course.
• Non-thesis option requires four core courses, six elective courses, and a public seminar describing workplace chemistry-based research or responsibilities.
• Students in both tracks may take special topic courses
• Detailed degree requirements and a complete list of courses can be found at gradchem.villanova.edu

State-of-the-Art Facilities
The Department of Chemistry is located in the Mendel Science Center where research is conducted in the state-of-the-art laboratories stocked with all required safety features and equipment. The Department of Chemistry is equipped with a full complement of modern analytical instrumentation, including an NMR spectrometer with liquids and solids capabilities, X-ray diffractometer with single crystal and powder capabilities, LC/MS systems, GC/MS systems and multiple GC, LC, FTIR, UV-Vis and Fluorescence spectrometers.

Explore Our Curriculum
We offer a broad range of courses for you to explore. Courses include topics in organic chemistry, inorganic chemistry, physical chemistry, environmental chemistry, analytical chemistry, biochemistry, solid state and materials chemistry, polymer chemistry, crystallography, metabolism, computational chemistry, chemistry in industry, and a variety of special topics and research courses. You will find a complete list of courses and course descriptions at gradchem.villanova.edu.
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Associate Professor
(University of California, Los Angeles)
Materials/Physical Chemistry: Synthesis, optical and thermal properties of metal and metal oxide nanomaterials

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Assistant Professor
(University of Southern California)
Organic and Computational Chemistry: Synthetic and computational studies of electron-deficient clusters, carborane synthesis, structure prediction

Eduard G. Casillas, PhD
Associate Professor
(Johns Hopkins University)
Organic Chemistry: Natural product synthesis, synthesis of antagonists for plant/fungal secondary metabolic pathways, terpene biomimetic synthesis

Aimee Eggler, PhD
Assistant Professor
(University of Wisconsin, Madison)
Biochemistry: Mechanisms of activation of the Nrf2 cytoprotective pathway by phytochemicals and other small molecules, in vitro assays with purified proteins, cell culture assays in human cell lines

Bryan C. Eigenbrodt, PhD
Assistant Professor
(University of Maryland)
Analytical/Materials Chemistry: Synthesis and electrochemical characterization of mixed-metal oxide fuel cell electrode catalysts, exploring the chemistry of microalgae specimens towards biofuel generation.

Robert M. Giuliano, PhD
Professor
(University of Virginia)
Organic Chemistry: Carbohydrate chemistry, synthesis of vinyl glycosides and carbohydrate vinyl ethers, branched-chain carbohydrates, nitrosugars

Amanda M. Grannas, PhD
Associate Professor
(Purdue University)
Analytical/Environmental Chemistry: Photochemical degradation of environmental pollutants in surface waters, photochemistry of organics in snow and ice, redox chemistry of soil and sediments, Arctic climate change

Ryan P. Jorn, PhD
Assistant Professor
(Northwestern University)
Physical/Theoretical Chemistry: Multi-scale modeling of charge transport in electrochemical systems and materials for rechargeable battery technology.

W. Scott Kassel, PhD
Associate Professor and Chair
(University of Florida)
Inorganic Chemistry: Solid-base catalysis, X-ray diffraction, synthesis of chiral pyrroline transition metal complexes as enantioselective catalysts

Daniel Kraut, PhD
Assistant Professor
(Stanford University)
Biochemistry: Enzyme kinetics, comparative enzymology, mechanism of unfolding, degradation and partial degradation of proteins by the proteasome

Anthony F. Lagalante, PhD
Professor
(University of Colorado)
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Associate Professor
(University of Pennsylvania)
Organic Chemistry: Natural products chemistry, medicinal chemistry, organic synthesis, identification of amphibian defense compounds

Brian K. Ohta, PhD
Associate Professor
(University of California, San Diego)
Organic Chemistry: NMR spectroscopy, intermediate characterization in photosensitized oxidation reactions, hydrogen bond asymmetry

Jennifer Palenchar, PhD
Associate Professor
(University of Delaware)
Biochemistry: Characterization of trypanosome transcription complexes, mechanistic enzymology of trypanosome metabolic enzymes

Jared J. Paul, PhD
Associate Professor
(University of North Carolina at Chapel Hill)
Inorganic Chemistry: Proton coupled electron transfer, synthesis of transition metal catalysts for solar energy conversion, photochemistry, electrochemistry

Barry S. Selinsky, PhD
Professor
(State University of New York at Buffalo)
Biocatalysis: Membrane biophysics, structural analysis of membrane proteins, membrane-active antibiotics, anticoagulants

Deanna L. Zubris, PhD
Associate Professor
(California Institute of Technology)
Inorganic Chemistry: Synthesis of organometallic complexes as polymerization catalysts, mechanistic studies

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