

CHEMISTRY - PH.D.

College of Arts and Sciences

Department of Chemistry and Biochemistry

www.kent.edu/chemistry

About This Program

The Ph.D. in Chemistry offers an unparalleled opportunity to make a lasting impact in the field. With a curriculum that emphasizes research and collaboration, you'll gain the skills needed to become a leader in the industry and make groundbreaking discoveries in chemistry. Our program also provides opportunities for interdisciplinary studies, research collaborations with faculty members and teaching experience. Read more...

Contact Information

- Program Coordinator: **Erin Michael-McLaughlin** | enmichae@kent.edu | 330-672-2032
- Connect with an Admissions Counselor: U.S. Student | International Student

Program Delivery

- **Delivery:**
 - In person
- **Location:**
 - Kent Campus

Examples of Possible Careers and Salaries*

Chemical technicians

- 2.8% slower than the average
- 68,100 number of jobs
- \$49,820 potential earnings

Chemistry teachers, postsecondary

- 4.3% about as fast as the average
- 26,400 number of jobs
- \$80,400 potential earnings

Chemists

- 4.7% about as fast as the average
- 86,700 number of jobs
- \$79,300 potential earnings

Food scientists and technologists

- 4.4% about as fast as the average
- 14,200 number of jobs
- \$73,450 potential earnings

Forensic science technicians

- 14.1% much faster than the average
- 17,200 number of jobs
- \$60,590 potential earnings

Additional Careers

- Patent law
- Product development
- Formulation

* Source of occupation titles and labor data comes from the U.S. Bureau of Labor Statistics' Occupational Outlook Handbook. Data comprises projected percent change in employment over the next 10 years; nation-wide employment numbers; and the yearly median wage at which half of the workers in the occupation earned more than that amount and half earned less.

For more information about graduate admissions, visit the graduate admission website. For more information on international admissions, visit the international admission website.

Admission Requirements

- Bachelor's degree or higher from an accredited college or university
- Minimum 2.750 undergraduate GPA on a 4.000 point scale
- Completion of undergraduate courses consisting of one year each in analytical chemistry or biochemistry, organic chemistry, physical chemistry, calculus and physics is expected
- Official transcript(s)
- Goal statement
- Three letters of recommendation
- English language proficiency - all international students must provide proof of English language proficiency (unless they meet specific exceptions) by earning one of the following:
 - Minimum 525 TOEFL PBT score (paper-based version)
 - Minimum 71 TOEFL IBT score (Internet-based version)
 - Minimum 74 MELAB score
 - Minimum 6.0 IELTS score
 - Minimum 50 PTE score
 - Minimum 100 Duolingo English Test score

For more information about graduate admissions, please visit the Graduate Studies admission website. For more information on international admission, visit the Office of Global Education's admission website.

¹ Completion of undergraduate courses consisting of one year each in analytical chemistry or biochemistry, organic chemistry, physical chemistry, calculus and physics is expected.

Application Deadlines

- **Fall Semester**
 - Priority deadline: December 15
- **Spring Semester**
 - Priority deadline: September 15

Applications submitted by these deadlines will receive the strongest consideration for admission.

Program Requirements

Major Requirements

Code	Title	Credit Hours
Major Requirements		
CHEM 70894	COLLEGE TEACHING OF CHEMISTRY	1
CHEM 80199	DISSERTATION I ¹	30
Chemistry Electives		21
Chemistry Seminar Electives, choose from the following:		4
CHEM 72191	SEMINAR: ANALYTICAL CHEMISTRY	
CHEM 72391	SEMINAR: INORGANIC CHEMISTRY	
CHEM 72491	SEMINAR: ORGANIC CHEMISTRY	
CHEM 72591	SEMINAR: PHYSICAL CHEMISTRY	
Chemistry Seminars in Development/Problem Solving Electives, choose from the following:		4
CHEM 70291	SEMINAR: RECENT DEVELOPMENTS IN BIOCHEMISTRY	
CHEM 70391	SEMINAR: RECENT DEVELOPMENTS IN INORGANIC CHEMISTRY	
CHEM 70591	SEMINAR: RECENT DEVELOPMENTS IN PHYSICAL CHEMISTRY	
CHEM 71191	SEMINAR: PROBLEM SOLVING IN ANALYTICAL CHEMISTRY	
CHEM 71491	SEMINAR: PROBLEM SOLVING IN ORGANIC CHEMISTRY	
Minimum Total Credit Hours for Post-Baccalaureate Students		90
Minimum Total Credit Hours for Post-Master's Students		60

bioinorganic and biophysical chemistry) and materials science (nanomaterials, liquid crystals, photonic materials, spectroscopy, surface science).

¹ Each doctoral candidate, upon admission to candidacy, must register for CHEM 80199 for a total of 30 credit hours. It is expected that a doctoral candidate will continuously register for Dissertation I, and thereafter CHEM 80299, each semester, until all requirements for the degree have been met.

Candidacy for Degree

To be admitted to candidacy for the doctoral degree, the student must pass a written examination in the field of specialization, the form and time of the examination being determined by each division (analytical chemistry, biochemistry, inorganic chemistry, organic chemistry or physical chemistry). Those failing this examination may repeat the examination once. After passing the written examination, the student must present a detailed written proposal for his/her dissertation research. The successful oral defense of this proposal and its acceptance by the advisory committee admits the student to candidacy for the Ph.D. degree.

Program Learning Outcomes

Graduates of this program will be able to:

1. Demonstrate an improved knowledge of a specialization within chemistry.
2. Plan and execute chemical experiments.

Full Description

The Ph.D. degree in Chemistry provides students with opportunities for research in the areas of analytical, inorganic, organic and physical chemistry, as well as biochemistry. Many of the research topics are built around interdisciplinary themes in biomedical research (bioanalytical,