CHEMISTRY - PH.D.

College of Arts and Sciences
Department of Chemistry and Biochemistry
210 Williams Hall
Kent Campus
330-672-2032
chem@kent.edu
www.kent.edu/chemistry

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

Fully Offered At:
• Kent Campus

Admission Requirements
• Bachelor’s degree or higher from an accredited college or university
• Minimum 3.000 undergraduate GPA on a 4.000 point scale
• Minimum 3.250 graduate 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)
• Minimum 600 quantitative GRE score or minimum 143 quantitative GRE score is expected (although the subject GRE is not required, candidates are encouraged to provide a subject GRE score to strengthen their application)
• 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

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.

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.

Program Requirements
Major Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>CHEM 70894</td>
<td>COLLEGE TEACHING OF CHEMISTRY</td>
<td>1</td>
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<tr>
<td>CHEM 80199</td>
<td>DISSERTATION I</td>
<td>30</td>
</tr>
<tr>
<td>CHEM 72191</td>
<td>SEMINAR: ANALYTICAL CHEMISTRY</td>
<td>4</td>
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<td>CHEM 72391</td>
<td>SEMINAR: INORGANIC CHEMISTRY</td>
<td>4</td>
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<tr>
<td>CHEM 72491</td>
<td>SEMINAR: ORGANIC CHEMISTRY</td>
<td>4</td>
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<tr>
<td>CHEM 72591</td>
<td>SEMINAR: PHYSICAL CHEMISTRY</td>
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Chemistry Seminars in Development/Problem Solving Electives, choose from the following:

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>CHEM 70291</td>
<td>SEMINAR: RECENT DEVELOPMENTS IN BIOCHEMISTRY</td>
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<tr>
<td>CHEM 70391</td>
<td>SEMINAR: RECENT DEVELOPMENTS IN INORGANIC CHEMISTRY</td>
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<td>CHEM 70591</td>
<td>SEMINAR: RECENT DEVELOPMENTS IN PHYSICAL CHEMISTRY</td>
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<tr>
<td>CHEM 71191</td>
<td>SEMINAR: PROBLEM SOLVING IN ANALYTICAL CHEMISTRY</td>
<td>4</td>
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<td>CHEM 71491</td>
<td>SEMINAR: PROBLEM SOLVING IN ORGANIC CHEMISTRY</td>
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Minimum Total Credit Hours for Post-Baccalaureate Students 90
Minimum Total Credit Hours for Post-Master’s Students 60

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, including one term each summer, 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.