CHEMICAL ENGINEERING (PHD)

Doctor of Philosophy in Chemical Engineering
Unit: Speed School of Engineering (https://engineering.louisville.edu)
Department: Chemical Engineering (https://engineering.louisville.edu/academics/departments/chemical)
Academic Plan Code(s): CHE_PHD

Program Information

General Information
The PhD degree program is intended for persons having an accredited masters and/or baccalaureate degree in chemical engineering, but is also available to those with other backgrounds. Applicants with other backgrounds should plan on taking some undergraduate background coursework. Students interested in the PhD degree program should consult the Director of Graduate Studies in the Department of Chemical Engineering. The University of Louisville is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award doctoral degrees.

Degree Requirements
The award of a Doctor of Philosophy degree indicates that a student has attained mastery of a field and has demonstrated the capacity to perform independent scholarly research. Candidates for the Doctor of Philosophy degree must have a minimum final cumulative grade point average of 3.00 for all academic coursework attempted in Graduate Studies.

The requirements for the Doctor of Philosophy degree are explained in more detail in the Degree Requirements section (http://catalog.louisville.edu/graduate/general-policies-procedures-requirements/degree-requirements) of this catalog.

Admission Standards
The admission standards for the PhD program in Chemical Engineering are as follows:

1. All admission applications for the program shall include:
   a. Completed application (http://louisville.edu/graduate/apply) for the Graduate School,
   b. Application fee,
   c. Results from the Graduate Record Examination (GRE),
   d. At least two letters of recommendation, and
   e. Official transcript(s) for all previous post-secondary coursework. All transcripts not in English must be certified as authentic and translated verbatim into English.

2. The minimum requirement for admission is the baccalaureate degree or its equivalent from an accredited institution.

3. The minimum undergraduate grade point average that will be considered for unconditional acceptance and admission to the program is 3.00 (on a 4.00 scale).

4. The minimum GRE score that will be considered for unconditional acceptance and admission is a combined Verbal and Quantitative Reasoning score 302.

5. International students whose primary language is not English must show English language proficiency by either TOEFL/IELTS score or demonstration of a degree award from an acceptable English language institution. The successful applicant will typically have a total TOEFL score of 80 or higher or overall IELTS score of 6.5 or higher.

Program Requirements
The PhD program in Chemical Engineering is comprised of 54 credit hours beyond the baccalaureate degree in Chemical Engineering. A student entering the PhD program who already has a master's degree in Chemical Engineering may have some of the credit hours for that degree counted towards the 54 credit hours. Remedial work may be specified for applicants who, in the opinion of the faculty, do not have sufficient background.

The normal minimum curricular requirements for the doctoral program are listed below. However, some exceptions are possible at the discretion of the faculty and the Graduate Advisor in unusual situations.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CHE 610</td>
<td>Advanced Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>CHE 620</td>
<td>Transport Phenomena I</td>
<td>3</td>
</tr>
<tr>
<td>CHE 641</td>
<td>Advanced Reactor Design</td>
<td>3</td>
</tr>
<tr>
<td>CHE 686</td>
<td>Chemical Engineering Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CHE 695</td>
<td>Chemical Engineering Seminar (Enrollment for three semesters for one (1) credit hour.)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Technical Electives</strong></td>
<td><strong>18</strong></td>
</tr>
<tr>
<td>CHE 693</td>
<td>Advanced Research in Chemical Engineering</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td><strong>Minimum Total Hours</strong></td>
<td><strong>54</strong></td>
</tr>
</tbody>
</table>

Candidates for the Doctor of Philosophy degree must have a minimum final cumulative grade point average of 3.00 for all academic coursework attempted in Graduate Studies.

1. At least three (3) credit hours of Technical Electives must be from non-CHE courses, and the student's research advisor or academic advisor must approve non-CHE courses.