

CHEMICAL ENGINEERING (PHD)

Doctor of Philosophy in Chemical Engineering

Unit: Speed School of Engineering (<https://engineering.louisville.edu>) (GS)

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.

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 (<https://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:

- All admission applications for the program shall include:
 - Completed graduate application (<http://louisville.edu/graduate/futurestudents/apply-materials/application/>) for the Graduate School
 - Application fee
 - Results from the Graduate Record Examination (GRE)
 - At least two letters of recommendation
 - Official transcript(s) for all previous post-secondary coursework.
Note: All transcripts not in English must be certified as authentic and translated verbatim into English.
- The minimum requirement for admission is the baccalaureate degree or its equivalent from an accredited institution.
- The successful applicant will typically have an undergraduate grade point average of 3.00 or above (on a 4.00 scale).
- The successful applicant will typically have a GRE combined Verbal and Quantitative Reasoning score of 302 or above.
- International students whose primary language is not English must show English language proficiency by either TOEFL/IELTS/Duolingo score or demonstration of a degree awarded from an acceptable English language institution. The successful applicant will typically

have a TOEFL score of 79 or higher or overall IELTS score of 6.5 or higher or a Duolingo score of 105 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.

Code	Title	Hours
Courses - Post Baccalaureate		
CHE 610	Advanced Thermodynamics	3
CHE 620	Transport Phenomena I	3
CHE 641	Advanced Reactor Design	3
CHE 686	Chemical Engineering Analysis	3
CHE 695	Chemical Engineering Seminar (Enrollment for three semesters for one (1) credit hour.)	3
Technical Electives ¹		18
CHE 693	Advanced Research in Chemical Engineering (Requires 21 credit hours.) ²	1-15
Minimum Total Hours		54

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

² CHE 693 requires a total of 21 credit hours.