

ENGINEERING (CHEMICAL ENGINEERING) - DOCTOR OF PHILOSOPHY

The program of study leading to the Ph.D. is available to students who have either a BS or MS in chemical engineering. Students with a BS must complete 30 course credits and 24 dissertation credits, for a total of 54 credits, including:

- required core CHME courses (14 credits);
- graduate elective courses (12 credits);
- CHME elective courses (3 credits);
- independent research as CHME 698 Ph.D. Research prior to completion of the comprehensive exam (6 credits);
- dissertation as CHME 700 after completion of the comprehensive exam (18 credits); and
- graduate seminar as CHME 690 Graduate Seminar (1 credit).

Ph.D. students must pass:

1. a qualifying examination within 24 months of starting their Ph.D. studies;
2. a comprehensive examination completed a minimum of nine months prior to the dissertation defense; and
3. an oral defense of the written dissertation before the dissertation committee.
4. PhD candidates in the College of Engineering, who have successfully completed their PhD Qualifier Examination after January 1, 2018, must satisfy a publication requirement which requires two papers:

Paper #1: An archival paper accepted or published in any journal listed in the source publication list for the Web of Science, or a refereed Journal or Conference Proceeding approved by the student's doctoral committee and the cognizant Department Head(s), before the Doctorate of Philosophy final examination. The candidate should be listed as the lead author in Paper #1.

Paper #2: An additional archival paper submitted, accepted, or published in any journal listed in the source publication list for the Web of Science. Alternatively, one conference paper accepted or published in a national or international conference proceedings.

Prefix	Title	Credits
Required Core Courses		
CHME 501	Graduate Thermodynamics for Chemical Engineers	3
CHME 506	Graduate Transport Phenomena(s)	3
CHME 516	Graduate Numerical Methods in Chemical Engineering	3
CHME 542	Graduate Reactor Analysis and Design (s)	3
CHME 594	Professional Communication in Chemical Engineering	2
CHME electives (select from CHME 455-CHME 589)		3
Electives ¹		12
CHME 690	Graduate Seminar	1
CHME 698	Ph.D. Research	6

CHME 700	Doctoral Dissertation	18
Total Credits		54

¹ Elective courses are intended to supplement the research work of each graduate student. These courses must be numbered 450 or above and must be approved by the dissertation advisor.

First Year		Credits
Fall		
CHME 501	Graduate Thermodynamics for Chemical Engineers	3
CHME 516	Graduate Numerical Methods in Chemical Engineering	3
CHME Elective		3
Credits		9
Spring		
CHME 506	Graduate Transport Phenomena(s)	3
CHME 542	Graduate Reactor Analysis and Design (s)	3
CHME 594	Professional Communication in Chemical Engineering	2
CHME 690	Graduate Seminar	1
Credits		9
Summer		
Qualifying Exam		
Credits		0
Second Year		
Fall		
Grad Electives		6
CHME 698	Ph.D. Research	3
Credits		9
Spring		
Grad Elective		6
CHME 698	Ph.D. Research	3
Credits		9
Third Year		
Fall		
CHME 698	Ph.D. Research	6
Comprehensive Exam		
Credits		6
Spring		
CHME 700	Doctoral Dissertation	9
Credits		9
Fourth Year		
Fall		
CHME 700	Doctoral Dissertation	3
Credits		3
Spring		
Dissertation Defense		
Credits		0
Total Credits		54

During the Third Year - Fall semester students may need to take additional coursework that doesn't contribute to the 54 credit hour total in order to maintain full-time status