

# CHEMICAL ENGINEERING, PHD

## REQUIREMENTS

### MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum degree requirements (<https://guide.wisc.edu/graduate/#requirements>) and policies (<https://guide.wisc.edu/graduate/#policies>), in addition to the program requirements listed below.

### MAJOR REQUIREMENTS

#### MODE OF INSTRUCTION

Face to Face	Evening/ Weekend	Online	Hybrid	Accelerated
Yes	No	No	No	No

#### Mode of Instruction Definitions

**Accelerated:** Accelerated programs are offered at a fast pace that condenses the time to completion. Students typically take enough credits aimed at completing the program in a year or two.

**Evening/Weekend:** Courses meet on the UW-Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.

**Face-to-Face:** Courses typically meet during weekdays on the UW-Madison Campus.

**Hybrid:** These programs combine face-to-face and online learning formats. Contact the program for more specific information.

**Online:** These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

### CURRICULAR REQUIREMENTS

#### Requirement Detail

Minimum Credit Requirement	51 credits
Minimum Residence Credit Requirement	32 credits
Minimum Graduate Coursework Requirement	26 credits must be graduate-level coursework. Refer to the Graduate School: Minimum Graduate Coursework (50%) Requirement policy: <a href="https://policy.wisc.edu/library/UW-1244">https://policy.wisc.edu/library/UW-1244</a> ( <a href="https://policy.wisc.edu/library/UW-1244/">https://policy.wisc.edu/library/UW-1244/</a> ).
Overall Graduate GPA Requirement	3.00 GPA required. Refer to the Graduate School: Grade Point Average (GPA) Requirement policy: <a href="https://policy.wisc.edu/library/UW-1203">https://policy.wisc.edu/library/UW-1203</a> ( <a href="https://policy.wisc.edu/library/UW-1203/">https://policy.wisc.edu/library/UW-1203/</a> ).

**Other Grade Requirements** At least two of the core Chemical and Biological Engineering graduate classes must be taken in the first semester of residence in the graduate program, and at least four core graduate classes must be completed with grades of B or better, preferably by the end of the second semester of residence. A student who receives one grade of BC or lower in a core graduate class but who wishes to remain in the PhD program must take the fifth core course or re-take the low graded core course, preferably in the third semester, and the student must receive a B or better.

A student who receives more than one grade of BC or lower in core graduate classes will be placed in the MS program. Upon successful completion of the MS program, the student may petition the full faculty for to return to the PhD program.

A student who receives an average of 3.0 or higher on their preliminary exam becomes a candidate for the PhD program. A student who does not receive an average score of 3.0 or higher in the qualifying process is placed in the MS program. Upon successful completion of the MS program, the student may petition the full faculty to return to the PhD program.

**Assessments and Examinations** A doctoral student who has met the grade requirements must complete a preliminary exam in the second semester of their second year. The preliminary exam consists of a written report and oral examination.

During the first semester of the fourth year of the program, PhD Candidates will participate in a mandatory research progress meeting with their thesis committee.

**Language Requirements** No language requirements.

**Graduate School Breadth Requirement** All doctoral students are required to complete a doctoral minor or graduate/professional certificate. Refer to the Graduate School: Breadth Requirement in Doctoral Training policy: <https://policy.wisc.edu/library/UW-1200> (<https://policy.wisc.edu/library/UW-1200/>).

### REQUIRED COURSES

Code	Title	Credits
<b>Research Credits</b>		
Complete at least 30 research credits		30
CBE 790	Master's Research or Thesis	
CBE 890	Pre-Dissertator's Research	
CBE 990	Thesis-Research	
<b>Coursework</b>		
Complete 4 out of 5 Chemical and Biological Engineering (CBE) Core Courses		12
CBE 620	Intermediate Transport Phenomena	
CBE 660	Intermediate Problems in Chemical Engineering	
CBE 710	Advanced Chemical Engineering Thermodynamics	
CBE 735	Kinetics and Catalysis	

CBE 781	Biological Engineering: Molecules, Cells & Systems
<b>Breadth</b>	<b>9</b>
<b>Total Credits</b>	<b>51</b>

- Grades of B or better are required in all Chemical and Biological Engineering courses used towards degree requirements.
- The requirement of four core Chemical and Biological Engineering graduate courses shall not be met by substitution of other courses.

### Breadth Requirement

The breadth requirement is designed to represent a coherent body of work and should not be simply an after-the-fact ratification of a number of courses taken outside the major department. To ensure coherence, the student must consult with his or her advisor. The minor/certificate should be submitted for approval at an early date, before the student is halfway through the proposed course sequence.

### Teaching Assistantship

Each student in the PhD program is required to serve as a teaching assistant (TA) for two semesters. Under normal circumstances, each student should serve as a teaching assistant one semester of the second year and one semester of the third year. Requests for alternate arrangements, partial or full waiver of the requirement, should be submitted in writing to the Graduate Program Committee.