

List of ChBE Electives (2025-26)

Updated 3/25/2025

Course Title	Undergrad Students	Graduate Students
Summer 2025		
Polymer Science & Engineering I	CHBE 4775 ¹	
Fall 2025		
Chemical Engineering of Energy Systems	CHBE 4030 ⁵	CHBE 6030
Bioprocess Engineering	CHBE 4310 ^{3,4,5}	CHBE 6779
Chemical Product Design	CHBE 4535	
Pulp & Paper Manufacturing	CHBE 4720	CHBE 6741
Data Analytics for Chemical Engineers	CHBE 4745 ⁶	CHBE 6745
Electrochemical Storage	CHBE 4759 ⁵	
Polymer Science & Engineering I	CHBE 4775 ¹	
Mechanical Behavior of Composites	CHBE 4791 ¹	
Interfacial and Biomolecular Engineering	CHBE 4803	CHBE 8803
Electrochemical Technology and Techniques	CHBE 4803 ⁵	CHBE 8803
Adv. Optimization in Process Systems Engin.	CHBE 4803	CHBE 8803
Intro to MEMS (incl. lab)	CHBE 6229 ^{1,2}	CHBE 6229 ¹
Polymer Characterization (incl. lab)	CHBE 6752 ^{1,2}	CHBE 6752 ¹
Advanced Polymer Chemistry	CHBE 6757 ^{1,2}	CHBE 6757 ¹
Cellular Engineering	CHBE 6782 ^{1,2}	CHBE 6782 ¹
Tissue Engineering	CHBE 6794 ^{1,2}	CHBE 6794 ¹
Spring 2026 (tentative schedule)		
Microelectronics Fabrication	CHBE 4050	CHBE 6050
Emerging Technology in Forest Bioproducts	CHBE 4730	CHBE 8803
Fund of Sustainable Chemical Industry	CHBE 4743 ⁵	CHBE 6743
Data-Driven Process Systems Engineering	CHBE 4746 ⁷	CHBE 6746
Biofluid Mechanics	CHBE 4757 ^{1,3}	
Electrochemical Storage	CHBE 4759 ^{1,5}	
Protein Engineering	CHBE 4762 ³	CHBE 6762
Drug Design, Development & Delivery	CHBE 4765 ³	CHBE 6765
Polymer Science & Engineering I	CHBE 4775	
Biosystems Analysis	CHBE 4782 ^{1,3}	
Composite Materials & Proc.	CHBE 4793 ¹	
Prep. & Reactions-Polymers	CHBE 6750 ^{1,2}	CHBE 6750 ¹

Notes

- 1 Taught by non-ChBE faculty
- 2 Undergrad ChBE students can take this course with consent of the instructor
- 3 Priority enrollment given to Biotechnology option students.
- 4 Elective for Standard option; required course for Biotechnology option.
- 5 Depth elective for Energy Systems minor
- 6 Core course (Core 2 – COE track) for Applications of AI and ML minor
- 7 Elective course (COE track) for Applications of AI and ML minor