

**List of ChBE Electives (2024-25)**

Updated 4/9/2024

Course Title	Undergrad Students	Graduate Students
<b>Summer 2024</b>		
Polymer Science & Engineering I <i>(Early Short Summer)</i>	CHBE 4775 <sup>1</sup>	
Composite Materials and Processes <i>(Late Short Summer)</i>	CHBE 4793 <sup>1</sup>	
<b>Fall 2024</b>		
Bioprocess Engineering	CHBE 4310 <sup>3,4,5</sup>	CHBE 6779
Chemical Product Design	CHBE 4535	
Pulp & Paper Manufacturing	CHBE 4720	CHBE 6741
Data Analytics for Chemical Engineers	CHBE 4745 <sup>6</sup>	CHBE 6745
Electrochemical Storage	CHBE 4759 <sup>5</sup>	
Protein Engineering	CHBE 4762	CHBE 6762
Polymer Science & Engineering I	CHBE 4775 <sup>1</sup>	
Mechanical Behavior of Composites	CHBE 4791 <sup>1</sup>	
Engineering of Next-Gen Medical Devices	CHBE 4803	CHBE 8803
Aerosol Chemistry and Air Quality	CHBE 4803	CHBE 8803
Intro to MEMS (incl. lab)	CHBE 6229 <sup>1,2</sup>	CHBE 6229 <sup>1</sup>
Polymer Characterization (incl. lab)	CHBE 6752 <sup>1,2</sup>	CHBE 6752 <sup>1</sup>
Advanced Polymer Chemistry	CHBE 6757 <sup>1,2</sup>	CHBE 6757 <sup>1</sup>
Cellular Engineering	CHBE 6782 <sup>1,2</sup>	CHBE 6782 <sup>1</sup>
Tissue Engineering	CHBE 6794 <sup>1,2</sup>	CHBE 6794 <sup>1</sup>
<b>Spring 2025 (tentative schedule)</b>		
Microelectronics Fabrication	CHBE 4050	CHBE 6050
Emerging Technology in Forest Bioproducts	CHBE 4730	CHBE 8803
Fund of Sustainable Chemical Industry	CHBE 4743 <sup>5</sup>	CHBE 6743
Data-Driven Process Systems Engineering	CHBE 4746 <sup>7</sup>	CHBE 6746
Biofluid Mechanics	CHBE 4757 <sup>1,3</sup>	
Electrochemical Storage	CHBE 4759 <sup>1,5</sup>	
Drug Design, Development & Delivery	CHBE 4765 <sup>3</sup>	CHBE 6765
Polymer Science & Engineering I	CHBE 4775	
Biosystems Analysis	CHBE 4782 <sup>1,3</sup>	
Composite Materials & Proc.	CHBE 4793 <sup>1</sup>	
Nanoporous Materials	CHBE 4803 <sup>5</sup>	CHBE 8803
AI for Experimental Chemical Engineering	CHBE 4803 <sup>7</sup>	CHBE 8803
Prep. & Reactions-Polymers	CHBE 6750 <sup>1,2</sup>	CHBE 6750 <sup>1</sup>

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