**Chemical Engineering**

*Focus Area*

**Polymers**

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| **General Education Components[[1]](#footnote-1) (15 semester hours)** |
| GEC | GEC courses consistent with career goals  | 15 s.h. |
| **Statistics Elective (3 semester hours)***(Choose One)* |
| STAT:2020CBE:3020 | Probability and Statistics for Engineering and Physical SciencesApplied Statistics for Chemical and Natural Resources Engineering (offered Spring semester) | 3 s.h.3 s.h. |
| **Advanced Chemistry/Science Electives[[2]](#footnote-2) (6 semester hours)** |  |
| CBE:5315 | Polymer Chemistry (offered Fall of even years) | 3 s.h. |
|  | Advanced Chemistry Course | 3 s.h. |
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| **Free Electives (12 semester hours from the following list)** |
| **Required Course** |  |  |
| CBE:5310 | Polymer Science and Technology (offered Fall of odd years) | 3 s.h. |
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| **Engineering Electives** |  |  |
| ENGR:2995 | Intro to AI and Machine Learning in Engineering | 3 s.h. |
| CBE:3998 | Individual Investigations | 3 s.h. |
| CBE:5199 | Contemporary Topics (polymer topics, *offering varies*) | 1-3 s.h. |
| CBE:5390 | Photopolymerization Topics (*offered Fall semesters*) | 1 s.h. |
| BME:2500 | Biomaterials and Biomechanics (*offered Fall/Spring semesters*)2 | 4 s.h. |
| CBE:5300 | Drug Delivery Devices (*last offered Spring 2017)* | 3 s.h. |
| BME:5401 | Biomaterials and Implant Design (*offered Fall semesters*)[[3]](#footnote-3) | 3 s.h. |
| BME:5421  | Cell Material Interactions (*last offered Spring 2018)* | 3 s.h. |
| ME:5146 | Modeling of Materials Processing (*last offered Spring 2018*)2 | 3 s.h. |
| ME: 5167 | Composite Materials (*last offered Spring 2018)* | 3 s.h. |
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| **Science Electives**  |  |  |
| CHEM:4372 | Advanced Organic Chemistry  | 3 s.h. |
| CHEM:5118 | Nanomaterials (*offered Fall of odd years*) | 3 s.h. |
| PHAR:4740  | Materials in Drug and Gene Delivery (*last offered Fall 2016*) | 3 s.h. |
| PHYS:3750 | Fundamentals of Micro & Nanofabrication (*offered Fall sem on-line and Spring sem in class/lab*) |  |
| 3000-level or higher | Advanced Engineering, Mathematics and Science Course(s) | 3-9 s.h. |
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1. <https://www.engineering.uiowa.edu/current-students/academic-information/general-education-component>. Discuss with your CBE faculty advisor if you have questions about your GEC requirement. [↑](#footnote-ref-1)
2. <https://cbe.engineering.uiowa.edu/undergraduate-program/undergraduate-handbook/chemical-engineering-curriculum#Advanced%20Chemical%20Science%20Electives>. Discuss with your CBE faculty advisor if you have questions about your advanced chemistry/science electives. [↑](#footnote-ref-2)
3. These courses have prerequisites that can be waived with instructor approval. [↑](#footnote-ref-3)