Biochemical Engineering Minor

Minor Requirements:

Before beginning these courses the student must meet the required course prerequisites. A minimum grade of C- is required in all of the courses completed for the Minor (19 credits).

Core Courses:

- **BISC 207 - Introductory Biology I** Credit(s): 4  
  LL Tech Elective
- **BISC 401 - Molecular Biology of the Cell** Credit(s): 3  
  UL Tech Elective
- **CHEG 420 - Biochemical Engineering** Credit(s): 3  
  CHEG Elective
- **CHEM 527 - Introduction to Biochemistry**  
  Normally taken Spring Junior year
  or
  **CHEM 641 - Biochemistry I** requires 2 semesters of orgo (CHEM 331 and 332)
- **CHEM 642 - Biochemistry II** (sequence may substitute for CHEM 527)

Two of the following:

- **BISC 300 - Introduction to Microbiology** Credit(s): 4  
  UL Tech Elective
- **BISC 403 - Genetics** Credit(s): 3  
  UL Tech Elective
- **BISC 411 - Experimental Molecular Biology** Credit(s): 4  
  UL Tech Elective
- **BISC 471 - Introductory Immunology** Credit(s): 3  
  UL Tech Elective
- **BISC 484 - Computer Based Genetics Laboratory** Credit(s): 3
- **BISC 612 - Advanced Cell Biology**
- **BMFG 471 - Mathematical Physiology** Credit(s): 3  
  UL Tech Elective
- **MAST 625 - Microbial Physiology and Diversity**  
  UL Tech Elective
- **MAST 694 - Systems Biology I**  
  UL Tech Elective
  or
- BINF 694 - Systems Biology I

- CIEG 444 - Microbiology of Engineered Systems Credit(s): 4   UL Tech Elective
  or
- CIEG 644 - Microbiology of Engineered Systems   UL Tech Elective

- CIEG 867 - Bioengineering and Molecular Genetics
- CHEG 621 - Metabolic Engineering   CHEG Elective
- CHEG 648 - Biomaterials for Drug and Gene Delivery   CHEG Elective
- CHEG 650 - Biomedical Engineering
- CHEG 660 - Systems Biology   UL Tech Elective
- CHEG 667 - Cell Culture Biomanufacturing   CHEG Elective
- CHEM 643 - Intermediary Metabolism   UL Tech Elective
- CHEM 644 - Mechanisms of Enzyme Catalysis   UL Tech Elective
- CHEM 645 - Protein Structure and Function   UL Tech Elective
- CHEM 646 - DNA-Protein Interactions   UL Tech Elective
- CHEM 648 - Membrane Biochemistry
- CHEM 649 - Molecular Biophysics
- CHEM 686 - Biophysical Chemistry   UL Tech Elective
- MATH 460 - Introduction to Systems Biology Credit(s): 3   UL Tech Elective
- MEEG 484 - Biomaterials and Tissue Eng App Credit(s): 3   UL Tech Elective
- MEEG 486 - Cell and Tissue Transport Credit(s): 3   UL Tech Elective
- MSEG 460 - Biomaterials and Tissue Engineering Credit(s): 3   UL Tech Elective
- MSEG 460 - Biomaterials and Tissue Engineering
- MSEG 667-13 Experimental Methods in Biomolecular Engineering
- MSEG 667-17 Vaccines and ImmunoEngineering
- MSEG 667-20 Biopharmaceutical Manufacturing

- CHEG 473 - Chemical Engineering Projects Credit(s): 3 (three credits, upon minor advisor approval)   CHEG Elective
  or

- CHEG 473 - Chemical Engineering Projects

**Note:**

Other courses in engineering, science, and mathematics may be included in the list with the prior approval of the Minor Advisor at (302) 831-2543 or che-info@udel.edu.

**Credits to Total a Minimum of 19**