

**Bloomsburg University Department of Chemistry
Bachelor of Sciences in Chemistry-Biochemistry Option**

| Courses (prerequisites) | Sem. Taken | Courses | Sem. Taken |
|--|---------------|---|---------------|
| Cr | | ¹ offered only in Spring ² offered only in Fall | Cr |
| Chemistry Courses – 35 credits | | General Education - 50 credits total | |
| 52.115 Chemistry for the Sciences I | 4 | Communication - 9 credits | |
| 52.116 Chemistry for the Sciences II (115) | 4 | 20.101 Composition 1 | 3 |
| 52.231 Organic Chemistry I ² (116) | 4 | 09.231 Technical Writing | 3 |
| 52.232 Organic Chemistry II ¹ (231) | 4 | <u>Communications Course (25.103 Public Speaking)</u> | 3 |
| 52.251 Inorganic Chemistry ¹ | 3 | | |
| 52.281 Introduction to Scientific Literature ¹ | 1 | Quantitative - 3 credits | |
| 52.321 Analytical Chemistry ² (116) | 3 | (Requirement met with 53.125) | |
| 52.341 Biochemistry I (116, 231, 232) | 4 | | |
| 52.361 Physical Chemistry I ² (116, 54.212, 53.225) | 4 | Values - 3 credits - may be met w/approp. Gr. A or B | |
| 52.442 Biochemistry II ¹ (341) | 4 | | 3 |
| | | | |
| Restricted Chemistry Electives - 6-8 Credits | | | |
| 52.322 Instru. Analytical ¹ or 52.333 Adv. Organic ¹ or 52.362 P. Chem II ¹ or 52.371 Intro Polymer ¹ or 52.452 Adv. Inorg. ² or 52.482 Adv. Topics ¹ or 52.492 Research I | | Fitness - 2 credits | |
| | | | 1 |
| | | | 1 |
| | | | |
| | | Diversity - 6 credits - may be met w/approp. Gr. A or B | |
| | | | 3 |
| | | | 3 |
| | | | |
| Math Courses – 9 credits | | Group A (Humanities) - 12 credits | |
| 53.125 Calculus 1 | 3 | 28.270 Logic (recommended) | 3 |
| 53.126 Calculus 2 (125) | 3 | | 3 |
| 53.225 Calculus 3 (126) | 3 | | 3 |
| | | | 3 |
| Physics Courses – 8 credits | | | |
| 54.211 Gen Physics I | 4 | Group B (Social Sciences) - 12 credits | |
| 54.212 Gen Physics II (211, 53.125 concurrent) | 4 | | 3 |
| | | | |
| Required Biology Courses - 8 credits | | | |
| 50.242 Biology of Microorganisms | 4 | | 3 |
| 50.271 Cell Biology | 4 | | 3 |
| | | | 3 |
| Biology Course Electives (choose one: 3 credits) | | | |
| 50.332 Genetics, 50.343 Immunology | 3 | Group C (Nat. Sci. & Math) - 12 credits | |
| <i>other upper level Biology courses may be considered with prior approval by the Chemistry Department</i> | | All requirements met with required science and math courses | |

Suggested Course Sequence for Bachelor of Sciences in Chemistry-Biochemistry Option

| YEAR | FALL | SPRING | | |
|------------|--|-----------|---|-----------|
| 1st | 52.115 Chemistry for the Sciences I | 4 | 52.116 Chemistry for the Sciences II | 4 |
| | 53.113 Pre-Calculus | 3 | 53.125 Calculus 1 | 3 |
| | Group A (Humanities, 28.270 Logic ³) 1 of 4 | 3 | 20.101 Composition 1 | 3 |
| | Communications Course (25.103 Public Speaking ³) | 3 | Group B (Social Sciences) 2 of 4 | 3 |
| | 09.100 University Seminar | 1 | 50.271 Cell Biology | 4 |
| | Group B (Social Sciences) 1 of 4/Diversity 1 of 2 | 3 | | |
| | | 17 | | 17 |
| 2nd | 52.231 Organic Chemistry I ² | 4 | 52.232 Organic Chemistry II ¹ | 4 |
| | 53.126 Calculus 2 | 3 | 52.251 Inorganic Chemistry ¹ | 3 |
| | 54.211 Gen Physics I | 4 | 52.281 Introduction to Scientific Literature ¹ | 1 |
| | Group A (Humanities) 2 of 4/Diversity 2 of 2 | 3 | 54.212 Gen Physics II | 4 |
| | 09.231 Technical Writing | 3 | 53.225 Calculus 3 | 3 |
| | | | | |
| | 17 | | 15 | |
| 3rd | 52.341 Biochemistry I | 4 | 52.442 Biochemistry II ¹ | 4 |
| | 52.361 Physical Chemistry I ² | 4 | Chemistry Elective 1 of 2 | 3 |
| | Fitness 1 of 2 | 1 | Fitness 2 of 2 | 1 |
| | Biology Elective | 3 | 50.242 Biology of Microorganisms | 4 |
| | Group B (Social Sciences) 3 of 4 | 3 | Group A (Humanities) 3 of 4 | 3 |
| | | | | |
| | 15 | | 15 | |
| 4th | 52.321 Analytical Chemistry ² (116) | 3 | Free Elective | 3 |
| | Chemistry Elective 2 of 2 | 4 | Group A (Humanities) 4 of 4 | 3 |
| | Free Elective | 3 | Values, Ethic and Decision Making | 3 |
| | Free Elective | 3 | | |
| | Group B (Social Sciences) 4 of 4 | 3 | | |
| | | | | |
| | 16 | | 9 | |

All students must fulfill the General Education Requirements as outlined in university policy.

Total credits = 121
Excluding Seminar = 120

Humanity, Social Sciences, Communication, Diversity, Values/Eth/Resp. electives may be interchanged with respect to when taken.

Optimizing Opportunities for the Chemistry Major that is Pre-Graduate School:

1. If you are considering or have decided to follow this path, inform your advisor.
2. Be an active member of the Chem Club.
3. Strong writing skills are required to write entrance essays. Never pass-up an opportunity to write!
4. Being well-read is important for good performance on the GRE. Read Time, Newsweek, etc. frequently.
5. Make a strong effort in research.

Example "outside-the-box" courses that provide reading, writing, and vocabulary-building opportunities: (and serve as Group A or Group B or electives)

| | |
|---------------------------------|--|
| 20.152 Literature and Society | 45.211 Principles of Sociology |
| 20.204 Intro. Creative Writing | 45.213 Contemporary Social Problems |
| 20.212 Pract. Grammar and Usage | 45.231 Marriage and Family |
| 27.110 Mass Comm and Pop Arts | 70.101 Intro. Exceptional Individuals |
| 28.297 Ethics | 98.407 International Legal Environment |