Biochemistry BA Check List

The following schedule is a suggested plan of study for the BA degree in biochemistry, however there are multiple options to graduate in four years. It does not include the required general education courses. Students should work in close consultation with their biochemistry advisors. Some of these courses are also offered during the summer.

First Year

**Fall Semester:**
- CHEM:1110 Principles of Chemistry I 4sh
- MATH:1850 Calculus I 4sh

**Spring Semester:**
- CHEM:1120 Principles of Chemistry II 4sh
- MATH:1860 Calculus II 4sh

*Students may begin research in biochemistry at any time: please consult with your advisor.*

Second Year

**Fall Semester:**
- BIOL:1411 Foundations of Biology 4sh
- CHEM:2230 Organic Chem I for Majors 4sh

**Spring Semester:**
- BIOL:1412 Diversity of Form and Function 4sh
- CHEM:2240 Organic Chem II for Majors 4sh
- CHEM2420 Org Chem Lab for Majors 3sh

*At the end of the sophomore year, in consultation with their advisor, student choose their degree track (BA or BS).*

Third Year

**Fall Semester**
- BIOC:3120 Biochemistry and Molecular Bio 3sh
- PHYS:1611 Introductory Physics I 4sh
- Science Elective¹ sh-TBD

**Spring Semester**
- BIOC:3131 Biochem and Molecular Bio II 3sh
- BIOC:3140 Experimental Biochemistry 2sh
- PHYS:1612 Introductory Physics II 4sh
- BIOC:3993 Undergrad Independ. Study sh-TBD

**Summer Session:**
- BIOC:4999 Research Independent Study³ 2-3sh

Fourth Year

**Fall Semester**
- BIOC:4999 Research Independ. Study³ 2-3sh
- CHEM4430 Principles of Physical Chem² 3sh
- Science Elective¹ sh-TBD

**Spring Semester**
- BIOC:4999 Research Independ. Study³ 2-3sh
- Science Elective¹ sh- TBD

**Notes**

1. **Electives:** Six s.h. of Advanced Science Electives are required for the BA degree. Science electives may be taken at any time. Some of the course may have prerequisites.

2. Students in BA program are required to take **one** of the following courses: CHEM:4430, CHEM:4431, CHEM:4432, BIOC:5241, or BIOC:5242 but CHEM:4430 is recommended by Chemistry.

3. **Department Honors:** BA students wanting to graduate with department honors must take a total of 6 sh of BIOC:4999 Research Indep. Study. The number of s.h. of research in any given semester is arranged between the student and their research advisor. Prerequisites for BIOC:4999 are: BIOC:3120 and BIOC:3130 (Biochem and Molecular Bio I and II) and BIOC: 4130 (Experimental Biochem) with at least a B- in a given course. Student should have prior research experience or Honors Research Practicum, or consent of the instructor.

4. **Course Sequence Options:** BA students can take either the **recommended organic sequence for majors** (CHEM:2230, 2240, 2420) or Organic Chem (CHEM:2210 , 2220, 2420). They can take the recommended PHYS:1611 and 1612 Introductory Physics I, II, or they can take PHYS:1511, 1512, College Physics I, II.
Biochemistry BS Check List

The following schedule is a suggested plan of study for the BS degree in biochemistry, however there are multiple options to graduate in four years. Students should work in close consultation with their biochemistry advisors. Some of these courses are also offered during the summer session.

First Year

Fall Semester:  
CHEM:1110 Principles of Chemistry I 4sh  
MATH:1850 Calculus I 4sh  

Spring Semester:  
CHEM:1120 Principles of Chemistry II 4sh  
MATH:1860 Calculus II 4sh  

Students may begin research in biochemistry at any time: please consult with your advisor.

Second Year

Fall Semester:  
BIOC:1411 Foundations of Biology 4sh  
CHEM:2230 Organic Chem I for Majors 4sh  
PHYS:1611 Introductory Physics I 4sh  

Spring Semester:  
BIOC:1412 Diversity of Form and Function 4sh  
CHEM:2240 Organic Chem II for Majors 4sh  
CHEM2420 Org Chem Lab for Majors 3sh  

At the end of the sophomore year, in consultation with their advisor, student choose their degree track (BA or BS).

Third Year

Fall Semester  
BIOC:3120 Biochemistry and Molecular Bio 3sh  
PHYS:1612 Introductory Physics II 4sh  
Science Elective 1 sh-TBD  
BIOC:3993 Undergrad Independ. Study sh-TBD  

Spring Semester  
BIOC:3131 Biochem and Molecular Bio II 3sh  
BIOC:3140 Experimental Biochemistry 2sh  
BIOC:3150 Dev. Senior Research project 2sh  
BIOC:3993 Undergrad Independ. Study sh-TBD  

Summer Session:  
BIOC:4999 Research Independent Study 3sh

Fourth Year

Fall Semester  
BIOC:4999 Research Indep. Study 3sh  
BIOC:4241 Biophysical Chemistry I 3sh  
Science Elective 1 sh-TBD

Spring Semester  
BIOC:4999 Research Indep. Study 3sh  
BIOC:4242 Biophysical Chemistry II 3sh  
Science Elective 1 sh- TBD

Notes

1. Electives: 9 s.h. of Advanced Science Electives and 6 s.h. of Advanced research or Lab courses are required for the BS degree. Students usually take BIOC: 4999 to fulfill the Adv. Lab requirement, however any advanced lab course will satisfy the requirement. Science electives may be taken at any time, though some courses may have prerequisites.

2. Students in BS program are required to take two of the following courses: CHEM:4430, CHEM:4431, CHEM:4432, BIOC:4241, or BIOC:4242.

3. Department Honors: BS students wanting to graduate with department honors must take a total of 6 s.h. of BIOC:4999 Research Indep. Study. The number of s.h. of research in any given semester is arranged between the student and their research advisor. Prerequisites for BIOC:4999 are: BIOC:3120, BIOC:3130, BIOC3140, and BIOC3150 with B- or better, and with at least a B- in a given course. Student should have prior research experience or Honors Research Practicum, or consent of the instructor.

4. Prerequisite for BIOC 4999.

5. Course Sequence Options: BS students can take either the recommended organic sequence for majors (CHEM:2230, 2240, 2420) or Organic Chem (CHEM:2210 , 2220, 2420). They can take two semesters of the recommended PHYS:1611 and 1612, Introductory Physics I, II, or they can take PHYS:1511, 1512, College Physics I, II.