

Student ID: \_\_\_\_\_  
 Student Name: \_\_\_\_\_  
 Adviser Name: \_\_\_\_\_

Catalog: 2019-20 College of Liberal Arts  
 Program: Biochemistry/Molecular Biology Major  
 Minimum Credits Required: \_\_\_\_\_

## Biochemistry/Molecular Biology Major

Meet the Faculty

The biochemistry/molecular biology major is an interdepartmental major offered by the biology and chemistry departments that provides students with a strong background in chemistry and biology with an emphasis on molecular aspects. Through selected electives, students may concentrate on specific areas of interest. Students have excellent opportunities within the departments of biology and chemistry to engage in independent research projects. Graduates are prepared to pursue employment in biochemical, pharmaceutical, and biotechnological laboratories, and further study in the health professions or graduate research institutions. **Note that biochemistry/molecular biology majors may not double major, or minor, in biology or chemistry.** To declare this major, a student must have a minimum 2.0 GPA in at least two (2) of the courses taken at Rollins listed in the major requirements. At least seven (7) courses required for the Biochemistry/Molecular Biology major must be taken at Rollins College or as part of a Rollins sanctioned program.

## Major Requirements

Nine (9) core courses and an additional 18 semester hours of elective course credit are required. At least seven (7) courses must be at the **300-400 level**. Satisfactory performance on a comprehensive standardized examination is required of all majors.

## Core Courses

### Biology

Course Name	Crs:	Term Taken	Grade	Gen Ed
BIO 120 - General Biology I				
BIO 121 - General Biology II <i>Prereq(s):</i> BIO 120 and CHM 120				
BIO 341 - Molecular Biology <i>Prereq(s):</i> BIO 121 and CHM 220/220L.				

### Chemistry

Course Name	Crs:	Term Taken	Grade	Gen Ed
CHM 120 - Chemistry I <i>Prereq(s):</i> Completion of Math Skills Inventory				
CHM 121 - Chemistry II <i>Prereq(s):</i> CHM 120 or CHM 130 or consent.				
CHM 220/220L - Organic Chemistry I <i>Prereq(s):</i> C- in CHM 121 or CHM 131 or consent.				
CHM 221/221L - Organic Chemistry II <i>Prereq(s):</i> CHM 220/220L.				

### Biochemistry

Course Name	Crs:	Term Taken	Grade	Gen Ed
BCH 335 - Biochemistry <i>Prereq(s):</i> BIO 121 and CHM 221/221L.				
BCH 435 - Advanced Biochemistry <i>Prereq(s):</i> BCH 335 and senior standing.				

### Electives

Minimum eighteen (18) semester credit hours, comprising at least four courses, chosen from the following list. At least two of these electives must be courses with a lab. A minimum of six (6) credits each must bear the CHM and BIO prefixes.

Course Name	Crs:	Term Taken	Grade	Gen Ed
BIO 308 - Genetics <i>Prereq(s):</i> BIO 121 and CHM 121 or CHM 131.				
BIO 310 - Microbial Genetics <i>Prereq(s):</i> BIO 121 and CHM 121 or CHM 131				
BIO 311 - Plant Physiology <i>Prereq(s):</i> BIO 121 and CHM 121 or CHM 131.				
BIO 312 - Animal Physiology <i>Prereq(s):</i> BIO 121 and CHM 121 or CHM 131.				
BIO 329 - Microbial Physiology				

<i>Prereq(s)</i> : BIO 229 and CHM 121 or CHM 131				
BIO 342 - Biostatistics <i>Prereq(s)</i> : BIO 121.				
BIO 360 - Cell Biology <i>Prereq(s)</i> : BIO 121 and CHM 121 or CHM 131.				
BIO 370 - Developmental Biology <i>Prereq(s)</i> : BIO 308 or BIO 341.				
BCH 498 - Independent Study: Research I and II <i>Prereq(s)</i> : instructor's consent for I and II; senior standing and BCH 498 for II.				
BCH 499 - Independent Study: Research I and II <i>Prereq(s)</i> : instructor's consent for I and II; senior standing and BCH 498 for II.				
CHM 301 - Inorganic Chemistry <i>Prereq(s)</i> : CHM 221/221L or consent.				
CHM 305 - Physical Chemistry I <i>Prereq(s)</i> : CHM 121 or CHM 131 or consent.				
CHM 306 - Physical Chemistry II <i>Prereq(s)</i> : CHM 305.				
CHM 320 - Analytical Chemistry <i>Prereq(s)</i> : CHM 221/221L				
CHM 460 - Advanced Topics in Chemistry <i>Prereq(s)</i> : Determined by instructor.				
PSY 324 - CN: Neuropsychology <i>Prereq(s)</i> : PSY 155.				
PSY 326 - BB: Physiological Psychology <i>Prereq(s)</i> : PSY 155.				

## Recommendations

Students preparing for graduate programs in biology or professional schools, in health-related areas such as medicine, dentistry, veterinary medicine, or pharmacy, need a thorough introduction to physics and possibly calculus. Therefore, they should take *PHY 120* and *PHY 121* or *PHY 131* and (a) calculus course(s). Students contemplating careers and graduate study in biochemistry or pharmaceutical chemistry should include *PHY 120* and *PHY 121* or *PHY 131*, *MAT 111* and *MAT 112*, and a full year of physical chemistry – *CHM 305* and *CHM 306*.

## Notes: