Biophysical Science Undergraduate Major

A. Catalog Description of the Proposed Biophysical Science Program

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Overview

The B.A. in Biophysical Science is designed to serve students with strong interests in physical and mathematical aspects of the life sciences. The signature of the program is an exceptionally broad training in physics, biology, and chemistry. There are excellent scientific and professional opportunities for students who have acquired this broad grounding; bioinformatics, proteomics, and cell signaling are examples of subfields that benefit from a broad background in Biophysical Science. In conjunction with the other elements of the liberal arts core, graduates of the program are very well prepared to pursue careers in many sectors of the economy. The major is also well suited to students interested in graduate work in the health professions or in the biophysical sciences.

B. A. Degree Requirements

The B.A. in Biophysical Science requires a minimum of 61 credit hours of classwork, including 55 credit hours of specified courses. 18 credit hours of upper-division coursework in biology and physics are required, as are 3 credit hours of upper-division laboratory work in biology or physics.

Course	*Title*	*Credits*	*Notes*
BIO 121, 123	General Biology	8	1
PHY 101, 102	Major Concepts in Physics	8	1
CHE 106/107 & 116/117	General Chemistry (w. lab)	8	1,2
MAT 285, 286	Life Sciences Calculus	6	3
PHY 211/221 & PHY 212/222	General Physics (w. lab)	8	4
CHE 275/276	Organic Chemistry (w. lab)	5	1
BIO 326, 327	Genetics & Cell Biology	6	
PHY 361	Modern Physics	3	
PHY 315	Biological Physics	3	
Upper-division biology	Electives	6	5
Upper-division laboratory	Elective	-	6

(1) Courses required for medical college admission.
(2) Chemistry for honors & majors, CHE 109/119 & CHE 129/139 may be substituted.
(3) Standard calculus MAT 295, 296 may be substituted (8 credit hours).
(4) Physics for honors & majors, PHY 215, 216 may be substituted.
(5) Bio 355, 423, 425, 455, 462, 465, 475, 565, 575, 595 are recommended upper-division biology electives.
(6) 3 credit hours of either a biology or a physics upper-division laboratory class, including experimental research, are required; the requirement for 6 elective credits of upper-division biology may be satisfied simultaneously.