

HEALTH SCIENCES, B.S.

Overview

Mission

The mission of the Bachelor of Science in Health Sciences (<https://www.biola.edu/degrees/u/health-sciences-bs/>) is to provide an academically stimulating and challenging environment for intellectual and spiritual growth, preparing students to pursue careers and advanced degrees in health related fields.

Degree Program

A Bachelor of Science degree in Health Sciences (formerly Human Biology) is offered upon completion of the University baccalaureate and major requirements. The major offers one concentration: Pre-Health Care Professional.

Learning Outcomes

Program Learning Outcomes

Upon completion of the Bachelor of Science in Health Sciences, students will be able to:

1. Apply the scientific method in research (ULO 3).
2. Explain the biomolecular basis of life at the cellular level (ULO 1).
3. Distinguish the unique and integrated function of human organs and body systems (ULO 1).
4. Integrate faith and scientific knowledge to practice science with integrity, steward creation, and articulate the merit of their worldview (ULO 2).

Each Program Learning Outcome (PLO) listed above references at least one of the University Learning Outcomes (ULO 1, 2, 3), which may be found in the General Information section (<https://catalog.biola.edu/general-information/#UniversityLearningOutcomes>) of this catalog.

Admission Recommendations

Admission Recommendations

Recommended high school courses are: one year of biology, one year of chemistry, three years of mathematics, and two years of foreign language. One year of physics is desirable. The student should be aware that Advanced Placement (AP) science courses may not be used to fulfill science requirements for this degree.

Program Requirements

Graduate/Professional School Requirements

The student should be aware that most graduate programs and many professional schools require an overall minimum GPA of 3.0 and that a grade of C or better was earned for all science courses and they will not accept Advanced Placement science credit to fulfill the entrance requirements.

Curriculum Requirements

Pre-Health Care Professional (68+ Credits)

The Bachelor of Science in Health Sciences degree offers one concentration: Pre-Health Care Professional.

For Pre-Health Care Professional careers, especially Pre-Physical Therapy and Pre-Physician's Assistant, this degree/concentration is offered upon the completion of the University baccalaureate and major requirements as follows:

Code	Title	Credits
Health Sciences majors meet the Core Curriculum requirement of 9 credits in science, mathematics, and behavioral science within the major. The foreign language requirement is met by two years of high school study in the same language or four credits of college foreign language. PHIL 215 is strongly recommended and meets the Philosophy Core Curriculum requirement.		
Program Courses		
BIOS 111 & BIOS 113	Fundamentals of Cellular and Molecular Biology and Fundamentals of Cellular and Molecular Biology Laboratory	4
BIOS 112 & BIOS 114	Fundamentals of Organismal Biology and Fundamentals of Organismal Biology Laboratory	4
BIOS 200	Sophomore Writing Seminar	1
BIOS 254	Human Anatomy	4
BIOS 281 or BIOS 381	Physiology Advanced Physiology	4
BIOS 308	Biochemistry	3
BIOS 311	Neurobiology	3
BIOS 312	Cell and Molecular Biology	3
BIOS 322	Laboratory in Cell and Molecular Biology	1
BIOS 355	Environmental Health: An Ecological Perspective	4
PSYC 200	Introduction to Psychology ¹	3
PSYC 309 or PSYC 320	Introduction to Psychopathology Developmental Psychology: Lifespan	3
Supporting Science courses ²		
CHEM 107	Introduction to Chemistry ³	3
CHEM 105 & CHEM 115	General Chemistry I and General Chemistry I Lab	4
CHEM 106 & CHEM 116	General Chemistry II and General Chemistry II Lab	4
CHEM 301 & CHEM 311	Organic Chemistry I and Laboratory in Organic Chemistry I	4
MATH 210 or MATH 318	Introduction to Probability and Statistics Biostatistics	3
PHSC 111 & PHSC 117	Physics I and Physics I Laboratory ⁴	4

or PHSC 100 & PHSC 117	Physics I with Foundations and Physics I Laboratory	
or PHSC 132 & PHSC 134	General Physics I: Mechanics and Heat and General Physics I Laboratory	
Select 12 credits from the following (9 credits of upper- division BIOS, 3 credits of BIOS/KNES/PSYC)		12
BIOS 282	Microbiology	
BIOS 302	Vertebrate Biology	
BIOS 310	Prosection	
BIOS 315	Nutrition and Metabolism	
BIOS 316	Nutrition and Metabolism Lab	
BIOS 332 & BIOS 334	Genetics and Laboratory in Genetics	
BIOS 346	Medical Terminology	
BIOS 380	Advanced Microbiology	
BIOS 402	Parasitology	
BIOS 431	Developmental Biology	
BIOS 440	Topics in Advanced Biology	
BIOS 445	Immunology	
BIOS 448	Design of Life	
BIOS 455	General Virology	
BIOS 460	Clinical Observation Practicum	
BIOS 480	Internship	
BIOS 490	Directed Research	
KNES 301	Kinesiology	
KNES 302	Exercise Physiology	
PSYC 309	Introduction to Psychopathology	
PSYC 320	Developmental Psychology: Lifespan	
PSYC 340	Adolescence and Emerging Adulthood	
PSYC 425	Psychology of Marriage and Family	
Program Course Requirements: 68-71 credits		
Core Curriculum Requirements (https:// catalog.biola.edu/academic-policies/undergraduate- core-curriculum-program/)		54-58
Total Credits		122-129

- ¹ Fulfills the Behavioral Science Core Curriculum requirement.
- ² The following courses do not count as supporting science or major electives: BIOS 100, BIOS 105, BIOS 120, BIOS 128, BIOS 130.
- ³ CHEM 107 is waived for students who meet the qualifications to enter CHEM 105. See the current Placement Options for CHEM 105 (<https://www.biola.edu/academic-advising/incoming/placement-exams/chemistry-105/>) for more information.
- ⁴ All students who do not meet one of the Physics 111 Placement Options (<https://www.biola.edu/academic-advising/incoming/placement-exams/physics/>) must enroll in PHSC 100. The prerequisite for PHSC 132 is MATH 150 or an Advanced Placement (AP) Calculus AB or BC exam score of 4 or higher.

Course Sequence

NOTE: The course sequence table is designed by the major department and is one way that the classes will work out properly in sequence for your major. However, there are alternative or flexible ways to

rotate some of the classes within the same year/level and sometimes between year levels. Please contact your major department advisor to discuss flexible alternatives in scheduling the sequence of your classes.

Taking coursework during the summer session may also be an option to accelerate your degree path.

See Core Curriculum Program section (<https://catalog.biola.edu/academic-policies/undergraduate-core-curriculum-program/>) for a list of approved Core Curriculum courses.

Health Sciences, B.S. Pre-Health Care Professional (BHHC)

First Year		
Fall	Credits Spring	Credits
BBST 103 or 165	3 BBST 103 or 165	3
BIOS 112 & BIOS 114	4 BIOS 111 & BIOS 113	4
CHEM 105 & CHEM 115 (or CHEM 107 if needed per Department)	4 CHEM 106 & CHEM 116	4
ENGL 100 or 112	3 PSYC 200 (fulfills Behavioral Science Core Curriculum requirement)	3
GNST 102	1 KNES Activity (see Core Curriculum)	1
KNES 107	1	
	16	15
Second Year		
Fall	Credits Spring	Credits
BBST 209 or 210	3 BBST 209 or 210	3
BBST 251	3 BIOS 200	1
BIOS 254	4 BIOS 281 or 381	4
CHEM 301 & CHEM 311	4 BIOS 308	3
MATH 210 or 318	3 PHIL 215 (fulfills Philosophy Core Curriculum; strongly recommended)	3
	Literature (see Core Curriculum)	3
	17	17
Third Year		
Fall	Credits Spring	Credits
BBST 365	3 BBST 354	3
BIOS 311	3 BIOS 312	3
ENGL 313	3 BIOS 322	1
PHSC 111 & PHSC 117	4 BIOS Elective (upper-division)	3
PSYC 309 or 320	3 Elective (BIOS/KNES/PSYC)	3
Writing Competency Requirement (https:// catalog.biola.edu/academic- policies/undergraduate- requirements-policies/ #WritingCompetencyRequiremer)	Communication (see Core Curriculum)	3
	Graduation Application due in Registrar's Office	
	16	16
Fourth Year		
Fall	Credits Spring	Credits
BBST 300/400 Bible Elective	3 BBST 300/400 Bible Elective	3
BIOS 355	4 BBST 465	3
BIOS Elective (upper-division)	3 BIOS Elective (upper-division)	3

HIST 200, 201, or POSC 225	3 Fine Arts (see Core Curriculum)	3
	13	12

Total Credits 122

Note: If you have taken 2 years of the same language in high school, you have fulfilled your foreign language requirement. Otherwise, contact the Modern Language Department for placement test instructions.

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Health Sciences, B.S. Pre-Health Care Professional (BHHC)

First Year

Fall	Credits Spring	Credits
HNRS 101	4 HNRS 105	4
HNRS 102	4 HNRS 106	4
BIOS 112	4 BIOS 111	4
& BIOS 114	& BIOS 113	
CHEM 105	4 CHEM 106	4
& CHEM 115 (or CHEM 107 if needed per Department)	& CHEM 116	
GNST 102	1 KNES 107	1
	17	17

Second Year

Fall	Credits Spring	Credits
HNRS 210	4 HNRS 230	4
HNRS 215	4 HNRS 231	4
BIOS 200	1 BIOS 254	4
BIOS 281 or 381	4 BIOS 308	3
CHEM 301	4 KNES Activity (see Core Curriculum)	1
& CHEM 311		
	17	16

Third Year

Fall	Credits Spring	Credits
HNRS 324	4 HNRS 337	4
HNRS 326	2 HNRS 339	2
BIOS 311	3 BIOS 312	3
PHSC 111	4 BIOS 322	1
& PHSC 117		
PSYC 200	3 BIOS Elective (upper-division)	3
Writing Competency Requirement (https://catalog.biola.edu/academic-policies/undergraduate-requirements-policies/#WritingCompetencyRequiremer)	MATH 210 or 318	3
	16	16

Fourth Year

Fall	Credits Spring	Credits
HNRS 443	4 HNRS 458	4
BIOS 355	4 BBST 465	3
BIOS Elective (upper-division)	3 BIOS Elective (upper-division)	3
PSYC 309 or 320	3 BIOS/KNES/PSYC Elective	3
	14	13

Total Credits 126

Note: If you have taken 2 years of the same language in high school, you have fulfilled your foreign language requirement. Otherwise, contact the Modern Language Department for placement test instructions.