

BIOLOGICAL SCIENCES BASIC PROGRAM, SUPPORTING COURSES, & CORE

PHYSIOLOGY & NEUROBIOLOGY PHNB (0404E)

A minimum of 120 credits earned and a 2.0 cumulative GPA is needed to meet University graduation requirements. Major courses (Basic, Supporting, and Advanced) require a C- or better in each and a 2.0 average GPA.

1. BASIC PROGRAM 15 - 16 credits

Sem	Gr	Cr	
		4	BSCI105 Principles of Biology I *
		4	BSCI106 Principles of Biology II *
		3	BSCI207 Principles of Biology III *
		4	BSCI222 Principles of Genetics *
		1	Freshmen seminar UNIV100, GEMS100, HONR100, HLSC100, HEIP100 or ARHU105

* These are required benchmark courses, see:

<http://bsci.umd.edu/benchmarks>

2. SUPPORTING COURSES 32 credits

Sem	Gr	Cr	
		4	MATH130 OR MATH140 Calculus I *
		4	MATH131 OR MATH141 Calculus II *
		3	CHEM131 General Chemistry I *
		1	CHEM132 General Chemistry I lab *
		3	CHEM231 Organic Chemistry I *
		1	CHEM232 Organic Chemistry I lab *
		3	CHEM241 Organic Chemistry II *
		1	CHEM242 Organic Chemistry II lab *
		2	CHEM271 Gen Chem & Energetics *
		2	CHEM272 Bioanalytical Chem lab *
		4	PHYS131 OR PHYS141 Physics I
		4	PHYS132 OR PHYS142 Physics II

3. CORE General Education Requirements 27 – 33 credits

Fundamental studies math and CORE Math & Science are satisfied by the BSCI major requirements

Sem	Gr	Course	Summary of credits	
Fundamental Studies			Required	Completed
		ENGL101 *		
		Professional writing course (ENGL39X)		
Distributive Studies				
		HL Literature		
		HA Arts		
		HO / HA / HL / IE Humanities Other / Interdisciplinary & Emerging Issues		
		SH Social / Political History		
		SB 1 st Behavioral & Social Science		
		SB 2 nd SB / IE		
Advanced Studies				
		6 credits, 2 courses, 300 – 400 level, outside of major. Must be taken after 60 credits. 3 credits can be satisfied by approved Capstone (taken after 86 credits) or Honors Thesis		
		Cultural Diversity may be a course that meets Distributive or Advanced Studies.		
			Basic Program (15 – 16 cr.)	_____
			Supporting Courses (32 cr.)	_____
			CORE (27 – 33 cr.)	_____
			Advanced Program (27 cr.)	_____
			Elective	_____
			Subtotal	_____
			Duplicate credits Subtract from subtotal	_____
			Total Credits (120 cr.)	_____

4. Options for Advanced Program Specialization Areas see reverse side for Advanced Program requirements

Cell Biology & Genetics	General Biology	Physiology & Neurobiology
Ecology & Evolution	Microbiology	Individualized Studies

NOTES:

Student name _____ UID _____

Advisor's signature _____ Date of audit _____

NOTE: The curriculum in Biological Sciences changes as faculty review and improve the program. The curriculum descriptions provided here are the latest versions. Your curriculum may look slightly different depending on when you declared the Biological Sciences major. Your academic advisor can provide you with the most accurate information on what curriculum you are following. Any questions can be referred to the Undergraduate Academic Programs Office, 301-405-6892.

updated 07/2015

Advanced Program requirements apply to students starting as a PHNB major **Fall 2012 or later.**

At least two courses designated as **Lab** must be taken.

1. Required courses 14 credits

Sem	Gr	Cr	
		3	BCHM461 Biochemistry I OR BCHM463 Biochemistry of Physiology
		4	BSCI330 Cell Biology & Physiology w/ Lab
		4	BSCI440 Mammalian Physiology
		3	BSCI353 Principles of Neuroscience ¹

¹Starting Fall 2012, BSCI353 satisfies the Neurobiology course requirement that was previously fulfilled by BSCI446 or BSCI453.

2. PHNB Area courses 10 credits

- Lab courses offered as separate credit must be taken with lecture as co- or pre-requisite

Sem	Gr	Cr		Sem	Gr	Cr	
		2	BSCI338C Genomics of Sensory Systems			3	BSCI447 Endocrinology
		3	BSCI338E Neuroethology			3	BSCI451 Physical Chem. for Biologists
		2	BSCI338G Seminar on Deregulated Cell Growth in Cancer and Drug Development			1	BSCI454 Neurobiology Lab
		3	BSCI338N Diseases of the Nervous System			4	BSCI474 Mathematical Biology Lab
		3	BSCI338P Pathophysiology of the Circulatory System			3	BCHM462 Biochemistry II
		3	BSCI338R Darwinian Medicine			3	BCHM464 Biochemistry Lab
		3	BSCI338V Biology of Vision			3	BCHM465 Biochemistry III
		3	BSCI360 Animal Behavior				
		3	BSCI370 Principles of Evolution				Statistics, one course maximum
		3	BSCI394 Vertebrate Form and Function			3	BIOM301 Introduction to Biometrics
		3	BSCI404 Cell Biology from a Biophysical Perspective			3	STAT400 Applied Probability & Statistics
		3	BSCI410 Molecular Genetics			3	STAT464 Introduction to Biostatistics
		3	BSCI414 Recombinant DNA Lab				
		3	BSCI416 Biology of Human Genome			var.	Special Topics Courses²
		3	BSCI420 Cell Biology Lectures				BSCI328 Special Topics ENTM Depart.
		4	BSCI421 Cell Biology Lectures w/ Lab				BSCI338 Special Topics BIOL Depart.
		3	BSCI422 Principles of Immunology				BSCI339 Selected Topics BIOL Depart.
		2	BSCI423 Immunology Lab				BSCI348 Special Topics CBMG Depart.
		3	BSCI426 Membrane Biophysics				
		3	BSCI430 Developmental Biology				Departmental Honors Seminars³
		3	BSCI433 Biology of Cancer			1	BSCI378H and BSCI398H
		4	BSCI434 Mammalian Histology w/ Lab				
		2	BSCI441 Mammalian Physiology Lab				
		4	BSCI442 Plant Physiology w/ Lab				
		3	BSCI443 Microbial Physiology				
		3	BSCI446 Neural Systems				

Total PHNB Area credits _____

² Special Topics courses are allowed if specifically approved for upper level courses in BSCI. See Testudo for applicability of a particular course.

³ One credit of Honors seminar may be applied to major requirements. Additional Honors seminar credits count as electives.

3. Enrichment 3 credits Enrichment Course: _____ Credits: _____ Semester: _____ Grade: _____

Minimum 3 credits from any 300- or 400-level BSCI, CHEM, or BCHM course.

Courses from other departments can be used with permission of advisor.

Courses listed in the Advanced Program above can be used if they are not used to satisfy any category above.

Courses counted as enrichment do not satisfy the 300-or 400-level laboratory requirement.

Independent study or research credits, including H versions, are acceptable up to a maximum of 3 credits overall in the Advanced Program.

Total credits in Advanced Program: _____