

BIOLOGY, B.S. - PRE-MEDICAL PROFESSIONS OPTION

As with all of its preprofessional programs, Millersville University believes that undergraduate training for medical school should focus on a well-rounded education. Therefore, premedical professional option students are required to take a core foundation of liberal arts courses. That foundation, in combination with the recommended scientific courses, prepares premedical students at Millersville for the rigors of medical education. It also challenges them to develop both their abilities and perceptions so they are primed for the diagnostic and ethical demands of medical practice.

Major in Biology, BS

Code	Title	Hours
CORE COURSES		26
Foundations of Biology - See Appendix 1		
BIOL 211	Concepts of Zoology	
BIOL 221	Concepts of Botany	
BIOL 343	Principles of Ecology & Evolution	
BIOL 362	Cell and Developmental Biology	
BIOL 364	Foundations of Genetics & Molecular Biology	
BIOL 472	Seminar In Biology	
Option in Pre-Medical Professions - See separate block		
Total Hours		26

Appendix 1. Foundations of Biology

Code	Title	Hours
Foundations of Biology C- or Higher		4
BIOL 101	Foundations of Biology	

Concentration in Pre-Medical Professions

Code	Title	Hours
PRE-PROFESSIONAL COURSES - Choose 1 of the following options 1-2:		
Option 1. Human Anatomy Physiology I and II		
BIOL 254	Human Anatomy & Physiology I	
BIOL 255	Human Anatomy & Physiology II	
Option 2. Comp Vert Anatomy and Animal Physiology		
BIOL 318	Comparative Vertebrate Anatomy	
BIOL 435	Animal Physiology	
BIOLOGY ELECTIVES (9-12 to bring total BIOL credits to 43 minimum) - Choose 9 hours from:		9
BIOL 300	Co-Op Ed Experience in Biol	
BIOL 352	Nutritional Science	
BIOL 363	Medical Microbiology	
BIOL 415	Mammalogy	
BIOL 417	Parasitology	
BIOL 437	Endocrinology	
BIOL 438	Neurobiology	
BIOL 454	Immunology	
BIOL 361	Microbiology	
BIOL 462	Molecular Biology	

BIOL 463	Virology
BIOL 465	Developmental Biology
BIOL 467	Human Genetics:Analysis/Apps
BIOL 489	Honors Course
BIOL 498	Independent Study
BIOL 499	Departmental Honors

Students interested in Veterinary School are encouraged to take BIOL 318 435; Students interested in Dental School are encouraged to take BIOL 461, 454, 465; Students interested in Pharmacy programs should take BIOL 461 454; Students interested in Physician Assistant programs should take BIOL 461 454 and an additional 1-3 credits of microbiology courses or independent study.

Total Hours 16-17

Req Related for Biology, BS

Code **Title** **Hours**
For Biology Majors the G2 block of the Liberal Arts Core will be fulfilled by your required related coursework.

CHEMISTRY
A C- or higher in CHEM 111 and 112 is a pre-requisite for CHEM 235. A C- or higher in CHEM 231 is a pre-requisite for CHEM 232. Students interested in graduate or professional school should take CHEM 231 and 232.

CHEM 111	Introductory Chemistry 1	4
CHEM 112	Introductory Chemistry 2	4
Organic Chemistry I (C- minimum) and II		8
CHEM 231	Organic Chemistry 1	
CHEM 232	Organic Chemistry 2	
CHEM 326	Biochemistry 1	4

MATHEMATICS FOR PRE-MEDICAL PROFESSIONS		
MATH 161	Calculus 1	4
Biometry or Survey of Statistics - Choose 1 of the following:		3
BIOL 375	Biometry	
MATH 235	Survey of Statistics	

PHYSICS		
undefined - Choose 1 of the following options 1-2:		8-10
Option 1. Physics with Algebra		
PHYS 131	Physics 1 with Algebra	
PHYS 132	Physics 2 with Algebra	
Option 2. Physics with Calculus		
PHYS 231	Physics 1 with Calculus	
PHYS 232	Physics 2 with Calculus	

RECOMMENDED GENED FOR MCAT		
PSYC 100, 227/228, PHIL 100 and SOCY 101 are recommended Gen Ed courses for students planning to take the MCAT		
PSYC 100, 227, 228 (G3), PHIL 100 (G1), and SOCY 101 (G3)		0
Total Hours		35-37