

Biology: Pre-Physician Assistant Concentration

Bismarck State College (AS) and University of Mary

Freshman:	Fall		UMary Equivalent
BIOL 150/150L	General Biology I/Lab (Math/Sci/Tech)	3/1	BIO 103/L
CHEM 121/121L	General Chemistry I/Lab (Math/Sci/Tech)	4/1	CHE 111/L
MAT 165	Calculus I (or, if necessary, prerequisite for Calculus I) (Math/Sci/Tech)	3	MAT 209
ENGL 110	College Comp I (Comm)	3	ENG 111
BSC	Enrichment elective	2	Elective
	Fall Credits	17	
	Spring		
ENGL 120	College Comp II (Comm)	3	ENG 121
Elective	Elective (if Calc. I already completed, Social Science/Diversity Elective recommended)	3	Core Elective
BIOL 151/151L	General Biology II/Lab (Math/Sci/Tech)	3/1	BIO 106/L
CHEM 122/122L	General Chemistry II/Lab (Math/Sci/Tech)	4/1	CHE 112/L
	Spring Credits	15	
	Total Freshman Credits	32	
Sophomore:	Fall		
Elective	Elective (if Calc. I already completed, Social Science Elective recommended)	3	Core Elective
PHIL 210	Ethics (Arts & Humanities)	3	PHI 208
BIO 220/220L	Anatomy and Physiology I/Lab (Math/Sci/Tech)	3/1	BIO 207/L
CHEM 241/241L	Organic Chemistry I/Lab	4/1	CHE 217/L
	Fall Credits	15	
	Spring		
COMM 110	Fundamentals of Public Speaking (Comm)	3	COM 110
Elective	Arts & Humanities Elective (RELS recommended)	3	Core Elective
BIO 221/221L	Anatomy and Physiology II/Lab (Math/Sci/Tech)	3/1	BIO 208/L
CHEM 242/242L	Organic Chemistry II/Lab	4/1	CHE 318/L (LL)
	Spring Credits	15	
	Total Sophomore Credits	30	
	Total BSC Credits	62	(62→UMary)
Junior:	Fall		
HUM 322	Transfer Seminar	1	
BIO 311	Genetics	4	
PHY 203	Introduction to Physics	4	
BIO Elective (300/400 level)	Biology elective (BIO 309: Microbiology, if offered)	4	
Elective	Elective	3	
	Fall Credits	16	
	Spring		
PHY 304	Intermediate Physics	4	
BIO 354	Botany	4	
BIO Elective (300/400 level)	Biology elective (upper division)	4	
BIO Elective (300/400 level)	Biology elective (upper division)	4	
	Spring Credits	16	
	Total Junior Credits	32	

Senior:	Fall	
BIO Elective (300/400 level)	BIO Elective (BIO 309: Microbiology, if offered)	4
BIO 4XX	BIO Elective (Environmental area)	4
THE/CTH 234	Benedict: Yesterday & Today (or other elective if RELS taken at BSC)	3
Elective	Elective	3
HPS 206	Medical Terminology	2
	Fall Credits	17
	Spring	
BIO 450	Evolution and the Integration of Knowledge	3
CHE 310	Biochemistry	4
BIO Elective (300/400 level)	Biology elective (upper division)	4
MAT 204	Applied Statistics	4
HUM 499	Senior Competences Assessment	0
	Spring Credits	15
	Total Senior Credits	32
	Total BSC Credits	62
	Total UMary Credits	64
	Total Bachelor's Degree Credits	126
	Planned Minimum Total Upper Division Credits (300/400-level)	45

Specific admission requirements vary by school. For this reason, it is essential that students contact the schools they are interested in attending early in their academic programs, and periodically thereafter, to be sure they include all required courses in their programs of study.

Note: Because some biology courses (e.g. Microbiology) are offered every other year, it is important for students to consider the rotation of courses in planning their programs of study to ensure they take these courses in the appropriate year.

Biology Electives: Students must take five biology electives selected from three major areas of study. Of the five, at least one course must be taken from each of the three areas. These electives are in addition to the required biology courses. In the above outline, Biology electives are: BIO 207 & BIO 208 (together count as one), Environmental elective, Microbiology (or Med. Micro), plus 2 more of the students' choice.

** Indicates "highly recommended" for Pre-PA students.

* Indicates "recommended" for Pre-PA students.

Organismal & Systematics Area

BIO 207	**Human Anatomy and Physiology I	(Bio 207 & 208 together count as 1 elective)
BIO 208	**Human Anatomy and Physiology II	
BIO 312	*Parasitology	
BIO 330	Zoology	
BIO 421	*Advanced Physiology	
BIO 339	Mammalogy	
BIO 333	Ornithology	

Cell and Molecular Area

BIO 309	**Microbiology
BIO 310	*Cell and Molecular Biology
BIO 314	*Histology
BIO 318	*Immunology and Serology
BIO 319 and 320	*Hematology and Hematology Lab
BIO 417	*Developmental Biology

Environmental Area

BIO 326	Environmental Biology
BIO 415	Conservation Biology
BIO 422	Principles of Ecology
BIO 423	Animal Behavior
BIO 433	Range Management
BIO 432	Wildlife Management

Additional recommended non-biology electives

HPS 206 **Medical Terminology
PSY 201 *General Psychology
SOC 107 *General Sociology
ENG 302 *Classical & Contemporary Rhetoric