

# BIOLOGY MAJOR

Student Name \_\_\_\_\_

# VERTEBRATE PHYSIOLOGY OPTION

PSU ID \_\_\_\_\_

## CREDITS NOT APPLICABLE FOR GRADUATION

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### TOTAL DEPARTMENTAL CREDIT REQUIREMENTS FOR GRADUATION: 124 CREDITS

Communication (9 cr)	
ENGL 15 or ENGL 30 (3)	
ENGL 202A,202B,202C,202D(3)	
CAS 100 (3)	

Quantification (8 cr)	
**MATH 140 (4)	
MATH 141 (4)	

General Chemistry (8 cr)	
**CHEM 110 (3)	
CHEM 111 (1)	
**CHEM 112 (3)	
CHEM 113 (1)	

Biology Core Courses (16cr)	
** BIOL 110 (4)	
** BIOL 220W (4)*	
** BIOL 230W (4)*	
** BIOL 240W (4)*	
*These courses = 1 "W" Credit	

Arts (6 cr)	
GA (3)	
GA (3)	

Humanities (6 cr)	
GH (3)	
GH (3)	

Social & Behavioral Sciences (6 cr)	
GS (3)	
GS (3)	

Physics (8 - 12 cr)	
PHYS 250 (4)	
PHYS 251 (4)	
or	
PHYS 211 (4)	
PHYS 212 (4)	
PHYS 213 (2)	
PHYS 214 (2)	

Organic Chemistry (8 cr)	
CHEM 210 (3)	
CHEM 212 (3)	
CHEM 213 (2)	

Statistics (3-4 cr)	
STAT 200 (4), 240 (3), 250 (3)	

Biochemistry & Molecular Biology (6 cr)	
BMB 401(3)	
BMB 402 (3)	

Health & Physical Activity (3 cr) Courses with a GHS, GPE, or GHA label can fulfill this category	

- \_\_\_\_\_ *United States Cultures Requirement (3 credits US)*
- \_\_\_\_\_ *International Cultures Requirement (3 credits IL)*

PSU 016 (1)	
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400-Level Biology Courses (17 cr)	
BIOL 472	
BIOL 473 - SP only	

Select a minimum of 12 credits of 400-level courses, with at least 6 credits from Group I, 3 credits from Group II, and 2-3 credits from Group III

Group I Physiology	Group II Evolutionary Biology	Group III Practicum
BIOL 404	BIOL 405	BIOL 400
BIOL 406	BIOL 406	BIOL 407
BIOL 411	BIOL 414	BIOL 414
BIOL 412	BIOL 417	BIOL 417
BIOL 415	BIOL 420	BIOL 419
BIOL 416	BIOL/VB SC 421	BIOL 421
BIOL/VB SC 421	BIOL 422	BIOL 422
BIOL 424	BIOL/PPEM 425	BIOL/PPEM 425
BIOL 426	BIOL 427	BIOL 433
BIOL 433	BIOL 429	BIOL 437
BIOL 437	BIOL 432	BIOL 450W
BIOL 446	BIOL 433	BIOL 473
BIOL/BBH 469	BIOL 434	BIOL 482 (4 cr only)
BIOL/BBH 470	BIOL 436	BIOL 496
BIOL 472	BIOL 443	BIOL 499A
BIOL 479	BIOL 446	BIOL 496
BIOL 482	BIOL 451	SC 295
BIOL 497C	BIOL/ANTH 460	SC 395
* up to 6 credits may be selected from department list	BIOL 463	SC 495
	BIOL 464	BIOL 251
	BIOL/GEOSC 474	

A maximum of 3 credits of Bio 496 or 4 credits of SC 295, SC 395, SC 495 may be used to fulfill the 17 credit minimum in the 400-level biology course requirement.

Up to 6 credits for Group I can be selected from the following Department List:

AN SC 431W	ENT 412	MICRB 435	W F S 408
ANTH 466	FD SC 406	NUTR 446	W F S 452
BIOE 401	MICRB 401	NUTR 452	
E R M 431	MICRB 410	NUTR 462	
ENT 402	MICRB 412	PSYCH 462	

Supporting Courses & Related Areas Electives (16-21 cr) to complete 124 cr.	

**\*\* Grade of C or better is required.**

**Effective February 2014**

1. **Disallowed credits:** The following courses **MAY NOT** be used for credit (**NOT EVEN AS ELECTIVES**) towards a degree in Biology and will **NOT** be counted towards graduation:

BMB 1	CAS 126
BI SC 1, 2, 3, 4	MICRB – No course under 199
BIOL 11, 12, 33, 55	PH SC 1, 150, 151
CHEM 101, 103, 106, 108	LL ED 5, 10
ENGL 4, 5	PHYS 1
ESL 4	More than 9 credits of SC 295, 395, 495
MATH – no course under 140**	Course Duplications

**\*\*Please note that in the following courses only a specified number of the credits count towards graduation:**

MATH 140A (only 4 out of 6 credits count)  
CHEM 106 (only 3 out of the 5 credits count)

**However, all credits earned at Penn State count in determining your grade point average (GPA).**

**Moreover, students may take only one course for General Education credit from:** HD FS 129 (GS) or SOC 030 (GS); PHIL 001 (GH) or PHIL 004 (GH); LARCH 003 (GA) or LARCH 060 (GA); SOC 001 (GS) or R SOC 011 (GS).

Any exceptions need to be petitioned through an adviser in 114 Ritenour and will be evaluated by Dr. Richard Cyr on a case-by-case basis.

2. **Writing Across the Curriculum requirement** (3 credits of “W” are required). For majors in Biology, this requirement can be met by taking BIOL 220W, 230W and 240W, each carrying one credit of “W”. Another course currently offered in the Department of Biology with “W” credit is 450W. Note that other courses within the Eberly College of Science can be used to fulfill this requirement.

3. **Elective (Supporting) Courses:** Elective credit totals vary with the option. Total elective credits range between 10 to 26 credits, depending on option and course selection. Choose your electives carefully.

4. **Petition for course substitutions or waivers of requirements.** Any exceptions need to be petitioned through an adviser in the Biology Undergraduate Advising Office in 114 Ritenour (814-865-2329) and will be evaluated by Dr. Richard Cyr on a case-by-case basis.

5. **A minimum of 124 credits is required to graduate with a major in Biology.** Add up your credits **carefully** and **always** check your total credit early in the semester you plan to graduate!

6. **Check the bulletin board in the Biology Undergraduate Advising Office for new course offerings** in the Department of Biology.

7. **Select both United States Cultures and International Culture course carefully.** You may be able to select a course which will also satisfy the general education requirements in Arts, Humanities or Social and Behavioral Sciences. For example, SOC 119 – Race and Ethnic Relations – will satisfy both GS and US requirements but will only count as 3 or 4 credits towards the 124 credits required for graduation (Soc 119 is a variable credit course). To clarify, from the Undergraduate Advising Handbook “A student must complete 3 credits in US and 3 credits in IL. If a student takes a 3-credit course that is both US and IL, he/she must take another 3-credit course that is US, IL, or both US and IL to complete the requirement. Education abroad courses and other credit-bearing experiences such as internships that meet this requirement will be designated as US, IL, or both US and IL.”