

BIOLOGY, B.S. (BEHREND)

Begin Campus: Any Penn State Campus

End Campus: Erie

Suggested Academic Plan

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2025-26 academic year. To access previous years' suggested academic plans, please visit the archive (<https://bulletins.psu.edu/undergraduate/archive/>) to view the appropriate Undergraduate Bulletin edition.

General Biology Option: Biology, B.S. at Erie Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

First Year

Fall	Credits Spring	Credits
BIOL 110 ^{*#}	4 BIOL 240W ^{*#}	4
ENGL 15 or 30H [†]	3 MATH 141 ^{**†}	4
CHEM 110 ^{**†}	3 CHEM 112	3
CHEM 111 [†]	1 CHEM 113	1
MATH 140 (or appropriate MATH Course from ALEKS test) ^{**†}	4 General Education Course	3
PSU 7	1 General Education Course (GHW)	1.5
General Education Course (GHW)	1.5	
	17.5	16.5

Second Year

Fall	Credits Spring	Credits
BIOL 220W ^{*#}	4 BIOL 230W ^{*#}	4
CHEM 210 or 202	3 STAT 250 [*]	3
Elective or MATH 141 (if Calculus not complete)	3-4 CAS 100 [†]	3
General Education Course	3 CHEM 203 or 212 <i>and</i> 213 [†]	3
General Education Course	3 General Education Course	3
	16-17	16

Third Year

Fall	Credits Spring	Credits
BIOL 322 [*]	3 PHYS 251	4
PHYS 250 [†]	4 BIOL, MICRB, BMB, PPEM, ENT, or WFS 400-level Course [*]	3
ENGL 202C ^{**†}	3 Supporting Course (School Approved List)	3

BIOL, MICRB, BMB, PPEM, ENT, or WFS 400-level Course or Supporting Course (School Approved List) [*]	3-4 Supporting Course (School Approved List)	3
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General Education Course	3 General Education Course	3
	16-17	16

Fourth Year

Fall	Credits Spring	Credits
BIOL, MICRB, BMB, PPEM, ENT, or WFS 400-level Course [*]	3-4 BIOL 427 [*]	3

BIOL, MICRB, BMB, PPEM, ENT, or WFS 400-level Course [*]	3-4 BIOL, MICRB, BMB, PPEM, ENT, or WFS 400-level Course [*]	3-4
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Supporting Course (School Approved List)	3 Supporting Course (School Approved List)	3
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Supporting Course (School Approved List)	3 Supporting Course (School Approved List)	3
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PHYS 213 or 214 (or Supporting Course (School Approved List))	2 Supporting Course (School Approved List)	3
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	14-16	15-16
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Total Credits 127-132

* Course requires a grade of C or better for the major

‡ Course requires a grade of C or better for General Education

Course is an Entrance to Major requirement

† Course satisfies General Education and degree requirement

University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy Cultural Diversity Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

General Education includes Foundations (GWS and GQ), Knowledge Domains (GHW, GN, GA, GH, GS) and Integrative Studies (Inter-domain) requirements. N or Q (Honors) is the suffix at the end of a course number used to help identify an Inter-domain course, but the inter-domain attribute is used to fill audit requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

Program Notes:

- Students who have not met the admission requirement of two units of a high school world language must complete a college level-one world language within their first 60 credits.
- School Approved List of Supporting Courses** - All courses listed in the Penn State University course listings except those specifically listed in the 'non-approved courses' below are considered approved courses and can be used as supporting courses electives.
- School of Science Non-Approved List of Courses for the BIOBC Major:**
 - BIOL no course under 100
 - MATH no course under MATH 140, MATH 140A(2 of 6 credits)
 - BISC 1, BISC 2, BISC 3, BISC 4

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- MICRB 106 and MICRB 107
- BMB 1, BMB 3
- PHYS 1, PHYS 150, PHYS 151
- CHEM 1, CHEM 3, CHEM 101, CHEM 106(2 of 5 credits), CHEM 108
- PLSC 7, PLSC 8, PLSC 11
- CMPSC 1, CMPSC 100
- LLED 5, LLED 10
- ENGL 4, ENGL 5
- STAT 100

Advising Notes:

- CHEM 110: Prerequisite satisfactory performance on the MATH placement test (ALKES) - i.e. placement beyond the level of MATH 22; or CHEM 101 and MATH 22 or MATH 41
- Take PHYS 213 if you have taken PHYS 211 and PHYS 212
- Take PHYS 214 if you have taken PHYS 211 and PHYS 212

Genetics and Development Option: Biology, B.S. at Erie Campus

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First Year

Fall	Credits Spring	Credits
BIOL 110 ^{*#}	4 BIOL 240W [*]	4
ENGL 15 or 30H [‡]	3 MATH 141 ^{**†}	4
CHEM 110 ^{**†}	3 CHEM 112 [†]	3
CHEM 111 [†]	1 CHEM 113 [†]	1
MATH 140 (or appropriate MATH Course from ALEKS test) ^{**†}	4 General Education Course	3
PSU 7	1 General Education Course (GHW)	1.5
General Education Course (GHW)	1.5	
	17.5	16.5

Second Year

Fall	Credits Spring	Credits
BIOL 220W [*]	4 BIOL 230W [*]	4
CHEM 210	3 CHEM 212	3
General Education Course	3 CHEM 213	2
General Education Course	3 STAT 250 [*]	3
Elective or MATH 141 (if Calculus is not complete)	General Education Course	3
CAS 100 [‡]	3	
	16	15

Third Year

Fall	Credits Spring	Credits
BIOL 322 [*]	3 PHYS 251	4
PHYS 250 [†]	4 General Education Course	3
MICRB 201 [*]	3 BIOL 422, 428, 430, 460, or BMB 406 ^{*1}	3
MICRB 202 [*]	2 BIOL, MICRB, BMB, PPEM, ENT, or WFS 400-level Course [*]	3-4
ENGL 202C ^{‡†}	3 Supporting Course (School Approved List)	3
General Education Course	3	
	18	16-17

Fourth Year

Fall	Credits Spring	Credits
BIOL 422, 428, 430, 460, or BMB 406 ^{*1}	3 BIOL 427 [*]	3
BIOL 422, 428, 430, 460, or BMB 406 ^{*1}	3 BIOL, MICRB, BMB, PPEM, ENT, or WFS 400-level Course [*]	3-4

Supporting Course (School Approved List)	2 Supporting Course (School Approved List)	3
Supporting Course (School Approved List)	3 Supporting Course (School Approved List)	3
Supporting Course (School Approved List)	3 Supporting Course (School Approved List)	3
	14	15-16

Total Credits 128-130

* Course requires a grade of C or better for the major

‡ Course requires a grade of C or better for General Education

Course is an Entrance to Major requirement

† Course satisfies General Education and degree requirement

¹ Please meet with your adviser to discuss in which semesters and years these courses are offered.

University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy Cultural Diversity Requirements (United States and International Cultures).

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General Education includes Foundations (GWS and GQ), Knowledge Domains (GHW, GN, GA, GH, GS) and Integrative Studies (Inter-domain) requirements. N or Q (Honors) is the suffix at the end of a course number used to help identify an Inter-domain course, but the inter-domain attribute is used to fill audit requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

Program Notes:

- Students who have not met the admission requirement of two units of a high school world language must complete a college level-one world language within their first 60 credits.
- **School Approved List of Supporting Courses:** All courses listed in the Penn State University course listings except those specifically listed in the 'non-approved courses' below are considered approved courses and can be used as supporting courses electives.
- **School of Science Non-Approved List of Courses for the BIOBC Major:**
 - BIOL no course under 100
 - MATH no course under MATH 140, MATH 140A(2 of 6 credits)
 - BISC 1, BISC 2, BISC 3, BISC 4
 - MICRB 106 and MICRB 107
 - BMB 1, BMB 3
 - PHYS 1, PHYS 150, PHYS 151
 - CHEM 1, CHEM 3, CHEM 101, CHEM 106 (2 of 5 credits), CHEM 108
 - PLSC 7, PLSC 8, PLSC 11
 - CMPSC 1, CMPSC 100
 - LLED 5, LLED 10
 - ENGL 4, ENGL 5
 - STAT 100

Advising Notes:

- CHEM 110: Prerequisite satisfactory performance on the MATH placement test (ALKES) - i.e. placement beyond the level of MATH 22; or CHEM 101 and MATH 22 or MATH 41
- MICRB 201 should be taken concurrently with MICRB 202 Lab
- Take PHYS 213 if you have taken PHYS 211 and PHYS 212
- Take PHYS 214 if you have taken PHYS 211 and PHYS 212

Health Professions Option: Biology, B.S. at Erie Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

First Year

Fall	Credits Spring	Credits
BIOL 110 ^{*#}	4 BIOL 240W [*]	4
ENGL 15 or 30H [‡]	3 MATH 141 ^{**†}	4
CHEM 110 ^{*†}	3 CHEM 112 [†]	3
CHEM 111 [†]	1 CHEM 113 [†]	1
MATH 140 (or appropriate MATH Course from ALEKS test) ^{**†}	4 General Education Course	3
PSU 7	1 General Education Course (GHW)	1.5
General Education Course (GHW)	1.5	
	17.5	16.5

Second Year

Fall	Credits Spring	Credits
BIOL 220W [*]	4 BIOL 230W [*]	4
CHEM 210	3 CAS 100 ^{††}	3
SC 201	1 CHEM 212	3
General Education Course	3 CHEM 213	2
Elective or MATH 141 (if Calculus is not complete)	3 STAT 250 [*]	3
General Education Course	3	
	17	15

Third Year

Fall	Credits Spring	Credits
BIOL 322 [*]	3 BIOL 472 [*]	3
PHYS 250 [†]	4 BIOL 473 [*]	2
MICRB 201 [*]	3 BMB 402 & BMB 403 [*]	4
MICRB 202 [*]	2 ENGL 202C ^{††}	3
CHEM 472 [*]	3 PHYS 251	4
	15	16

Fourth Year

Fall	Credits Spring	Credits
BIOL 421 ^{*1}	4 BIOL 427 [*]	3
Supporting Course (School Approved List)	3 BIOL 430, MICRB 410, or MICRB 412 [*]	3
Supporting Course (School Approved List)	3 BIOL, MICRB, BMB, PPEM, ENT, or WFS 400-level Course [*]	3
Supporting Course (School Approved List)	3 General Education Course	3

General Education Course	3
	16
	12

Total Credits 125

- * Course requires a grade of C or better for the major
- ‡ Course requires a grade of C or better for General Education
- # Course is an Entrance to Major requirement
- † Course satisfies General Education and degree requirement

¹ See adviser for acceptable substitutions

University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy Cultural Diversity Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

General Education includes Foundations (GWS and GQ), Knowledge Domains (GHW, GN, GA, GH, GS) and Integrative Studies (Inter-domain) requirements. N or Q (Honors) is the suffix at the end of a course number used to help identify an Inter-domain course, but the inter-domain attribute is used to fill audit requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

Program Notes:

- Students who have not met the admission requirement of two units of a high school world language must complete a college level-one world language within their first 60 credits.
- **School Approved list of Supporting Courses:** All courses listed in the Penn State University course listings except those specifically listed in the 'non-approved courses' below are considered approved courses and can be used as supporting courses electives.
- **School of Science Non-Approved List of Courses for the BIOBC Major:**
 - BIOL no course under 100
 - MATH no course under MATH 140, MATH 140A (2 of 6 credits)
 - BISC 1, BISC 2, BISC 3, BISC 4
 - MICRB 106 and MICRB 107
 - BMB 1, BMB 3
 - PHYS 1, PHYS 150, PHYS 151
 - CHEM 1, CHEM 3, CHEM 101, CHEM 106 (2 of 5 credits), CHEM 108
 - PLSC 7, PLSC 8, PLSC 11
 - CMPSC 1, CMPSC 100
 - LLED 5, LLED 10
 - ENGL 4, ENGL 5
 - STAT 100
 - BIOL 421: Comparative Anatomy and BIOL 497: Human Anatomy alternate each year

Advising Notes:

- CHEM 110: Prerequisite satisfactory performance on the MATH placement test (ALKEs) - i.e. placement beyond the level of MATH 22; or CHEM 101 and MATH 22 or MATH 41

Medical Technology Option: Biology, B.S. at Erie Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

First Year

Fall	Credits Spring	Credits
BIOL 110S ^{*#}	4 BIOL 240W [*]	4
ENGL 15 or 30H [‡]	3 MATH 141 ^{**†}	4
CHEM 110 ^{**†}	3 CHEM 112 [†]	3
CHEM 111 [†]	1 CHEM 113 [†]	1
MATH 140 (or appropriate MATH Course from ALEKS test) ^{**†}	4 General Education Course	3
PSU 7	1 General Education Course (GHW)	1.5
General Education Course (GHW)	1.5	
	17.5	16.5

Second Year

Fall	Credits Spring	Credits
BIOL 220W [*]	4 BIOL 230W [*]	4
CHEM 210 or 202	3 STAT 250 [*]	3
Elective or MATH 141* (if Calculus not complete)	3-4 ENGL 202C ^{††}	3
General Education Course	3 CHEM 203 or 212 and 213	3
General Education Course	3 General Education Course	3
	16-17	16

Third Year

Fall	Credits Spring	Credits
BIOL 322 [*]	3 MICRB 410 ^{*1}	3
MICRB 201 [*]	3 PHYS 251	4
MICRB 202 [*]	2 General Education Course	3
PHYS 250 [†]	4 BMB 406 or BIOL 472 [*]	3
CAS 100 [‡]	3	
General Education Course	3	
	18	13

Fourth Year

Fall	Credits Spring	Credits
MICRB 405A [*]	8 MICRB 405B [*]	1
MICRB 405C [*]	6 MICRB 405D [*]	5
MICRB 405F [*]	3 MICRB 405E [*]	7
	MICRB 408 [*]	1
	17	14

Total Credits 128-129

- * Course requires a grade of C or better for the major
- ‡ Course requires a grade of C or better for General Education
- # Course is an Entrance to Major requirement
- † Course satisfies General Education and degree requirement

¹ MICRB 410 must be completed before clinical courses at St. Vincent.

University Requirements and General Education Notes:

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• Program Notes:

- Students who have not met the admission requirement of two units of a high school world language must complete a college level-one world language within their first 60 credits.
- **School Approved List of Supporting Courses:** All courses listed in the Penn State University course listings except those specifically listed in the 'non-approved courses' below are considered approved courses and can be used as supporting courses electives.
- **School of Science Non-Approved List of Courses for the BIOBC Major:**
 - BIOL no course under 100
 - MATH no course under MATH 140, MATH 140A (2 of 6 credits)
 - BISC 1, BISC 2, BISC 3, BISC 4
 - MICRB 106 and MICRB 107
 - BMB 1, BMB 3
 - PHYS 1, PHYS 150, PHYS 151
 - CHEM 1, CHEM 3, CHEM 101, CHEM 106 (2 of 5 credits), CHEM 108
 - PLSC 7, PLSC 8, PLSC 11
 - CMPSC 1, CMPSC 100
 - LLED 5, LLED 10
 - ENGL 4, ENGL 5
 - STAT 100

Advising Notes:

- CHEM 110: Prerequisite satisfactory performance on the MATH placement test (ALKES) - i.e. placement beyond the level of MATH 22; or CHEM 101 and MATH 22 or MATH 41
- MICRB 201 should be taken concurrently with MICRB 202 Lab
- MICRB 410 required for admission to clinical program

Molecular and Cell Biology and Biochemistry Option: Biology, B.S. at Erie Campus

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First Year

Fall	Credits Spring	Credits
BIOL 110 ^{*#}	4 BIOL 240W [*]	4
ENGL 15 or 30H [†]	3 MATH 141 ^{**†}	4
CHEM 110 ^{**†}	3 CHEM 112 [†]	3
CHEM 111 [†]	1 CHEM 113 [†]	1
MATH 140 (or appropriate MATH Course from ALEKS test) ^{**†}	4 General Education Course	3
PSU 7	1 General Education Course (GHW)	1.5
General Education Course (GHW)	1.5	
17.5		16.5

Second Year

Fall	Credits Spring	Credits
BIOL 220W [*]	4 BIOL 230W [*]	4
CHEM 210	3 CAS 100	3
Elective or MATH 141* (if Calculus is not completed)	3-4 CHEM 212 & CHEM 213	5
General Education Course	3 STAT 250 [*]	3
General Education Course	3 General Education Course	3
16-17		18

Third Year

Fall	Credits Spring	Credits
BIOL 322 [*]	3 PHYS 251	4
PHYS 250 [†]	4 BMB 406 ^{*1}	3
ENGL 202C ^{††}	3 MICRB 410 [*]	3
MICRB 201 [*]	3 Supporting Course (School Approved List)	3
MICRB 202 [*]	2 General Education Course	3
General Education Course		
15		16

Fourth Year

Fall	Credits Spring	Credits
BIOL, MICRB, BMB, PPEM, ENT, or WFS 400-level course [*]	3-4 BIOL 427 [*]	3
CHEM 472 [*]	3 BMB 402 [*]	3
BMB 442 [*]	3 BMB 403 [*]	1
Supporting Course (School Approved List)	3 Supporting Course (School Approved List)	3
Supporting Course (School Approved List)	3 Supporting Course (School Approved List)	3

Supporting Course (School Approved List)	3
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15-16	16
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Total Credits 130-132

- * Course requires a grade of C or better for the major
- ‡ Course requires a grade of C or better for General Education
- # Course is an Entrance to Major requirement
- † Course satisfies General Education and degree requirement

¹ See adviser for acceptable substitutions

University Requirements and General Education Notes:

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Program Notes:

- Students who have not met the admission requirement of two units of a high school world language must complete a college level-one world language within their first 60 credits.
- **School Approved List of Supporting Courses:** All courses listed in the Penn State University course listings except those specifically listed in the 'non-approved courses' below are considered approved courses and can be used as supporting courses electives.
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 - BIOL no course under 100
 - MATH no course under MATH 140, MATH 140A (2 of 6 credits)
 - BISC 1, BISC 2, BISC 3, BISC 4
 - MICRB 106 and MICRB 107
 - BMB 1, BMB 3
 - PHYS 1, PHYS 150, PHYS 151
 - CHEM 1, CHEM 3, CHEM 101, CHEM 106 (2 of 5 credits), CHEM 108
 - PLSC 7, PLSC 8, PLSC 11
 - CMPSC 1, CMPSC 100
 - LLED 5, LLED 10
 - ENGL 4, ENGL 5
 - STAT 100

Advising Notes:

- CHEM 110: Prerequisite satisfactory performance on the MATH placement test (ALKES) - i.e. placement beyond the level of MATH 22; or CHEM 101 and MATH 22 or MATH 41

Ecology, Evolution, and Behavior Option: Biology, B.S. at Erie Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

First Year

Fall	Credits Spring	Credits
BIOL 110 ^{*#}	4 BIOL 240W [*]	4
ENGL 15 or 30H [†]	3 MATH 141 [†]	4
CHEM 110 ^{**†}	3 CHEM 112 [†]	3
CHEM 111 [†]	1 CHEM 113 [†]	1
MATH 140 (or appropriate MATH Course based on ALEKS scores) ^{**†}	4 General Education Course	3
PSU 7	1 General Education Course (GHW)	1.5
General Education Course (GHW)	1.5	
	17.5	16.5

Second Year

Fall	Credits Spring	Credits
BIOL 220W [*]	4 BIOL 230W [*]	4
CHEM 202 or 210	3 CAS 100	3
Elective or MATH 141 (if Calculus has not been completed)	3-4 CHEM 203 or 212 <i>and</i> 213	3-5
General Education Course	3 STAT 250 [*]	3
General Education Course	1.5 General Education Course	3
	14.5-15.5	16-18

Third Year

Fall	Credits Spring	Credits
BIOL 322 [*]	3 BIOL 429 (or BIOL, MICRB, BMB, PPEM, or WFS 400-level Course) [*]	3
BIOL 435 or 446 (or other BIOL, MICRB, BMB, or WFS 400-level Course) [*]	3-4 BIOL 402W [*]	3
PHYS 250 [†]	4 PHYS 251	4
General Education Course	3 ENGL 202C ^{††}	3
Supporting Course	3 General Education Course	3
	16-17	16

Fourth Year

Fall	Credits Spring	Credits
BIOL 435 or 446 (or other BIOL, MICRB, BMB, or WFS 400-level Course) [*]	3-4 BIOL 427 [*]	3
BIOL 435 or 446 (or other BIOL, MICRB, BMB, or WFS 400-level Course) [*]	3-4 Supporting Course (School Approved List)	3
Supporting Course (School Approved List)	3 Supporting Course (School Approved List)	3

Supporting Course (School Approved List) or STAT Selection [*]	3 Supporting Course (School Approved List)	3
Supporting Course (School Approved List)	3 BIOL 429 (or BIOL, MICRB, BMB, PPEM, or WFS 400-level Course) [*]	3
	15-17	15

Total Credits 126.5-132.5

* Course requires a grade of C or better for the major

‡ Course requires a grade of C or better for General Education

Course is an Entrance to Major requirement

† Course satisfies General Education and degree requirement

University Requirements and General Education Notes:

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Program Notes:

- Students who have not met the admission requirement of two units of a high school world language must complete a college level-one world language within their first 60 credits.
- **School Approved List of Supporting Courses:** All courses listed in the Penn State University course listings except those specifically listed in the 'non-approved courses' below are considered approved courses and can be used as supporting courses electives.
- **School of Science Non-Approved List of Courses for the BIOBC Major:**
 - BIOL no course under 100
 - MATH no course under MATH 140, MATH 140A(2 of 6 credits)
 - BISC 1, BISC 2, BISC 3, BISC 4
 - MICRB 106 and MICRB 107
 - BMB 1, BMB 3
 - PHYS 1, PHYS 150, PHYS 151
 - CHEM 1, CHEM 3, CHEM 101, CHEM 106 (2 of 5 credits), CHEM 108
 - PLSC 7, PLSC 8, PLSC 11
 - CMPSC 1, CMPSC 100
 - LLED 5, LLED 10
 - ENGL 4, ENGL 5
 - STAT 100

Advising Notes:

- CHEM 110: Prerequisite satisfactory performance on the MATH placement test (ALKES) - i.e. placement beyond the level of MATH 22; or CHEM 101 and MATH 22 or MATH 41

- Take PHYS 213 if you have taken PHYS 211 and PHYS 212
- Take PHYS 214 if you have taken PHYS 211 and PHYS 212
- Supporting STAT Courses: STAT 461, STAT 462, STAT 464, STAT 466