## 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 2023-24 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 (Note: the archive only contains suggested academic plans beginning with the 2018-19 edition of the Undergraduate Bulletin).

## 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 ${ }^{\text {\# }}$ | 4 |
| ENGL 15 or $30 \mathrm{H}^{\ddagger}$ | 3 MATH 141* ${ }^{\text {+ }}$ | 4 |
| CHEM 110* ${ }^{\text {* }}$ | 3 CHEM 112 | 3 |
| CHEM $111^{+}$ | 1 CHEM 113 | 1 |
| MATH 140 (or appropriate MATH Course from ALEKS test) ${ }^{\text {* }}$ | 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 (if pursuing CHEM 210-212-213 sequence) or General Education Course | 3 STAT 250 | 3 |
| Elective or MATH 141 (if Calculus not complete) | 3-4 CHEM 202 or 212 and $213^{\dagger}$ | 3 |
| General Education Course | 3 CAS 100 ${ }^{\ddagger}$ | 3 |
| General Education Course | 3 General Education Course | 3 |
|  | 16-17 | 16 |
| Third Year |  |  |
| Fall | Credits Spring | Credits |
| BIOL 322* | 3 PHYS 251 or 212 | 4 |
| PHYS 250 or $211^{+}$ | 4 BIOL, MICRB, BMB, PPEM, ENT, or WFS 400-level Course ${ }^{*}$ | 3 |



- MATH no course under MATH 140,MATH 140A(2 of 6 credits)
-BISC 1,BISC 2,BISC 3,BISC 4
-MICRB 106andMICRB 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

1.)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
2.) Take PHYS 213 if you have taken PHYS 211 and PHYS 212
3.) Take PHYS 214 if you have taken PHYS 211 and PHYS 212

## Genetics and Development 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 ${ }^{\text {\# }}$ | 4 BIOL $240{ }^{*}$ | 4 |
| ENGL 15 or $30 \mathrm{H}^{\ddagger}$ | 3 MATH 141 ${ }^{\text {* }}$ | 4 |
| CHEM 110* ${ }^{\text {* }}$ | 3 CHEM $112^{+}$ | 3 |
| CHEM $111^{+}$ | 1 CHEM $113^{\dagger}$ | 1 |
| MATH 140 (or appropriate MATH Course from ALEKS test) ${ }^{\text {*+ }}$ | 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 $230{ }^{*}$ | 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) | CAS $100^{\ddagger}$ | 3 |
|  | General Education Course | 3 |
|  | 13 | 18 |

## 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 ${ }^{\ddagger \dagger}$ | 3 Supporting Course (School Approved List) | 3 |
| General Education Course | 3 |  |
|  | 18 | 16-17 |

## Fourth Year

Fall
BIOL 422, 428, 430, 460, or
BMB $406{ }^{* 1}$
BIOL 422, 428, 430, 460, or
BMB $406{ }^{* 1}$
Credits
3 BIOL 427*

3 BIOL, MICRB, BMB, PPEM, 3-4
ENT, or WFS 400-level

| 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 |  |

Total Credits 128-130

* Course requires a grade of C or better for the major
$\ddagger$ 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).
$W, M, X$, 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

1.) 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.
2.) School Approved List of Course for Electives - 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 Course ${ }^{*}$
-ENGL 4, ENGL 5
-STAT 100


## Advising Notes

1.)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
2.) MICRB 201 should be taken concurrently with MICRB 202 Lab
3.) Take PHYS 213 if you have taken PHYS 211 and PHYS 212
4.) 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 $30 \mathrm{H}^{\ddagger}$ | 3 MATH 141* ${ }^{\text {* }}$ | 4 |
| CHEM $110^{*+}$ | 3 CHEM $112^{+}$ | 3 |
| CHEM $111{ }^{+}$ | 1 CHEM $113^{\dagger}$ | 1 |
| MATH 140 (or appropriate MATH Course from ALEKS test) ${ }^{\text {* }}$ | 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 $230{ }^{*}$ | 4 |
| CHEM 210 | 3 CAS 100 ${ }^{\ddagger}$ | 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 General Education Course | 3 |
|  | 17 | 18 |


| Third Year |  |  |
| :---: | :---: | :---: |
| Fall | Credits Spring | Credits |
| BIOL 322* | 3 BIOL 472 * | 3 |
| PHYS $250{ }^{+}$ | $4 \mathrm{BIOL} 473{ }^{\text {* }}$ | 2 |
| MICRB 201* | $\begin{aligned} & 3 \text { BMB } 402 \\ & \& \text { BMB } 403^{*} \end{aligned}$ | 4 |
| MICRB 202* | $2{\text { ENGL } 202 C^{\ddagger}}^{\dagger}$ | 3 |
| CHEM 472* | 3 PHYS 251 | 4 |
|  | 15 | 16 |

## Fourth Year

| Fall | Credits Spring | Credits |
| :---: | :---: | :---: |
| BIOL 421 ${ }^{\text {* }}$ | $4 \mathrm{BIOL} 427{ }^{*}$ | 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

Total Credits 128

* Course requires a grade of C or better for the major
$\ddagger$ 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 $G Q$ ) require a grade of ' $C$ ' or better.

## Program Notes

1.) 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.
2.) School Approved List of Course for Electives - 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

1.)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

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## First Year

| Fall | Credits Spring | Credits |
| :---: | :---: | :---: |
| BIOL 110s** | $4 \mathrm{BIOL} 240 \mathrm{~W}^{*}$ | 4 |
| ENGL 15 or $30 \mathrm{H}^{\ddagger}$ | 3 MATH 141 ${ }^{\text {* }}$ | 4 |
| CHEM $110^{\text {* }}$ | 3 CHEM $112^{\dagger}$ | 3 |
| CHEM $111^{\dagger}$ | 1 CHEM $113{ }^{\dagger}$ | 1 |
| MATH 140 (or appropriate MATH Course from ALEKS test) ${ }^{\star+}$ | 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 $230{ }^{*}$ | 4 |
| CHEM 210 (if pursuing <br> CHEM 210-212-213 <br> sequence) or General <br> Education Course | 3 STAT 250 | 3 |
| Elective or MATH 141 (if Calculus not complete) | 3-4 CHEM 202 or 212 and 213 | 3 |
| General Education Course | 3 ENGL 202C ${ }^{\ddagger \dagger}$ | 3 |
| General Education Course | 3 General Education Course | 3 |
|  | 16-17 | 16 |


| Third Year |  |  |
| :---: | :---: | :---: |
| Fall | Credits Spring | Credits |
| BIOL $322^{*}$ | 3 MICRB 410* ${ }^{\text {* }}$ | 3 |
| MICRB 201* | 3 PHYS 251 | 4 |
| MICRB 202* | 2 BMB 402, 406, BIOL 472, or MICRB $415^{*}$ | 3-4 |
| PHYS $250{ }^{\dagger}$ | 4 General Education Course | 3 |
| CAS $100{ }^{\ddagger}$ | 3 |  |
| CHEM 202-203 sequence) or General Education Course |  |  |
|  | 18 | 13-14 |

## 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 $^{\star}$ | 1 |
| :--- | ---: |
| 17 | 14 |

Total Credits 128-130

* Course requires a grade of C or better for the major
$\ddagger$ 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.


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## Program Notes

1.) 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.
2.) School Approved List of Course for Electives - 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

1.) 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
2.) MICRB 201 should be taken concurrently with MICRB 202 Lab
3.) 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 $30{ }^{\ddagger}$ | 3 MATH 141 ${ }^{*}+$ | 4 |
| CHEM 110* ${ }^{\text {* }}$ | 3 CHEM $112^{\dagger}$ | 3 |
| CHEM $111^{\dagger}$ | 1 CHEM $113^{\dagger}$ | 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 |  |

## Second Year

| Fall | Credits Spring | Credits |
| :--- | :---: | ---: |
| BIOL 220W* | 4 BIOL 230W* | 4 |
| CHEM 210 | 3 CAS 100 | 3 |
| Elective or MATH 141 (if | $3-4$ CHEM 212 | 5 |
| Calculus is not completed) | \& CHEM 213 |  |
| General Education Course | 3 STAT 250 | 3 |
| General Education Course | 3 General Education Course | 3 |
|  | $\mathbf{1 6 - 1 7}$ | $\mathbf{1 8}$ |


| Third Year |  |  |
| :---: | :---: | :---: |
| Fall | Credits Spring | Credits |
| BIOL 322* | 3 PHYS 251 | 4 |
| PHYS $250{ }^{\dagger}$ | 4 BMB 406*1 | 3 |
| ENGL 202C ${ }^{\ddagger \dagger}$ | 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
CreditsSpring
Credits
BIOL, MICRB, BMB, PPEM, $\quad 3-4$ BIOL $427^{*}$
ENT, or WFS 400-level
course ${ }^{*}$

|  | 3 BMB 402* | 3 |
| :--- | :--- | :--- |
| CHEM 472* | 3 BMB 403 |  |

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

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

1.) 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.
2.) School Approved List of Course for Electives - 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
1.)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

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## First Year

| Fall | Credits Spring | Credits |
| :---: | :---: | :---: |
| BIOL 110*\# | 4 BIOL $240{ }^{*}$ | 4 |
| ENGL 15 or $30{ }^{\ddagger}$ | 3 MATH 141 | 4 |
| CHEM $110{ }^{\text {* }}$ | 3 CHEM $112^{\dagger}$ | 3 |
| CHEM $111^{\dagger}$ | 1 CHEM $113^{\dagger}$ | 1 |
| MATH 140 (or appropriate MATH Course based on ALEKS scores) ${ }^{\star \dagger}$ | 4 General Education Course | 3 |
| PSU 7 | 1 General Education Course (GHW) | 1.5 |
| General Education Course (GHW) | 1.5 |  |


| Second Year |  |  |
| :---: | :---: | :---: |
| Fall | Credits Spring | Credits |
| BIOL 220W* | 4 BIOL $230{ }^{*}$ | 4 |
| CHEM 210 (if pursuing CHEM 210-212-213 sequence) or General Education Course | 3 CHEM 202 or 212 and 213 | 3-5 |
| Elective or MATH 141 (if Calculus has not been completed) | 3-4 CAS 100 | 3 |
| General Education Course | 3 STAT 250 | 3 |
| General Education Course | 1.5 General Education Course | 3 |
| 4.5-15.5 |  | 16-18 |

## Third Year

Fall
BIOL $322^{*}$

## Credits Spring

Credits
3 BIOL 429 (or BIOL, MICRB, 3 BMB, PPEM, or WFS 400level Course) ${ }^{*}$
BIOL 435 or 446 (or other $3-4$ BIOL 402 W $^{*} 3$
BIOL, MICRB, BMB, or WFS
400-level Course) ${ }^{*}$
PHYS $250^{\dagger} 4$ PHYS 2514
CHEM 203 (or Supporting 3 ENGL 202C ${ }^{\ddagger \dagger} 3$

Course (School Approved
List))

| General Education Course | 3 General Education Course | 3 |
| :--- | :--- | ---: |
|  | $\mathbf{1 6 - 1 7}$ | $\mathbf{1 6}$ |

## Fourth Year

Fall
Credits Spring
Credits
BIOL 435 or 446 (or other 3-4 BIOL $427^{*}$
BIOL, MICRB, BMB, or WFS
400-level Course) ${ }^{*}$

| BIOL 435 or 446 (or other <br> BIOL, MICRB, BMB, or WFS <br> 400-level Course) | 3-4 Supporting Course (School <br> Approved List) | 3 |
| :--- | :---: | :---: |
| Supporting Course (School <br> Approved List) | 3 Supporting Course (School <br> Approved List) | 3 |
| Supporting Course (School <br> Approved List) or STAT <br> Selection | 3 Supporting Course (School <br> Approved List) | 3 |
| Supporting Course (School <br> Approved List) | 3 BIOL 429 (or BIOL, MICRB, <br> BMB, PPEM, or WFS 400- <br> level Course) | 3 |
|  | $\mathbf{1 5 - 1 7}$ | $\mathbf{1 5}$ |

Total Credits 126.5-132.5

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

1.) 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.
2.) School Approved List of Course for Electives - 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

1.) 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
2.) Take PHYS 213 if you have taken PHYS 211 and PHYS 212
3.) Take PHYS 214 if you have taken PHYS 211 and PHYS 212
4.) Supporting STAT Courses: STAT 461, STAT 462, STAT 464, STAT 466

