## BIOLOGY, B.S. (SCIENCE)

Begin Campus: Any Penn State Campus
End Campus: University Park

## 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 University Park 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 $110^{\star \#}$ | 4 BIOL $230 W^{\star \#}$ | 4 |
| CHEM $110^{\star \# \dagger}$ | 3 CHEM $112^{\star \dagger}$ | 3 |
| ${\text { CHEM } 111^{\dagger}}^{\text {E }}$ | 1 CHEM $113^{\dagger}$ | 1 |
| ENGL $15,30 \mathrm{H}$, or ESL $15^{\ddagger}$ | 3 MATH 141 B or $141^{\ddagger \dagger}$ | 4 |
| MATH 140 B or $140^{\star \ddagger \# \dagger}$ | 4 General Education Course | 3 |
| PSU 16 | 1 | $\mathbf{1 5}$ |

## Second Year

Fall CreditsSpring Credits

| BIOL 220W* | 4 BIOL 240W* | 4 |
| :---: | :---: | :---: |
| CHEM 210 or 202 | 3 CHEM 212 or 203 | 3 |
| STAT 200, 240, or 250 | 3-4 CHEM 213W (consult with an academic adviser for alternative options) | 2 |
| General Education Course | 3 CAS 100, CAS 100A, CAS 100B, or CAS 100C ${ }^{\ddagger}$ | 3 |
| Supporting course (consult with an academic adviser for | 3 Supporting course (consult with an academic advisor for | 3 |

with an academic adviser for with an academic advisor for options) options)

## 16-17

## Third Year

Fall
BIOL 400 Level Selection (consult with an academic adviser for options)
Supporting course (consult

## Credits Spring

3 BIOL 400 Level Selection (consult with an academic adviser for options)
3 Supporting course (consult with an academic adviser for options)

| PHYS 250 (consult with an academic adviser for alternative options) ${ }^{\dagger}$ | 4 PHYS 251 (consult with an academic adviserfor alternative options) | 4 |
| :---: | :---: | :---: |
| General Education Course | 3 General Education Course | 3 |
| Supporting course (consult with an academic adviser for options) | 3 Supporting course (consult with an academic adviser for options) | 3 |
|  | 16 | 16 |
| Fourth Year |  |  |
| Fall | Credits Spring | Credits |
| BIOL 400 Level Selection (consult with an academic adviser for options) | 3 BIOL 400 Level Selection (consult with an academic adviser for options) | 3 |
| BIOL 400 Level Selection (consult with an academic adviser for options) | 3 BIOL 400 Level Selection (consult with an academic adviser for options) | 3 |
| General Education Course | 3 General Education Course | 3 |
| ENGL 202C, 202A, 202B, or 202D | 3 General Education Course | 3 |
| Supporting course (consult with an academic adviser for options) | 3 Supporting course (consult with an academic adviser for options) | 3 |
|  | 15 | 15 |

Total Credits 124-125

* 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:
US and IL are abbreviations used to designate courses that satisfy Cultural Diversity Requirements (United States and International Cultures).
$\mathrm{W}, \mathrm{M}, \mathrm{X}$, 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.

All incoming Schreyer Honors College first-year students at University Park will take ENGL 137H/CAS 137H in the fall semester and ENGL 138T/CAS 138T in the spring semester. These courses carry the GWS designation and satisfy a portion of that General Education requirement. If the student's program prescribes GWS these courses will 3 replace both ENGL 15/ENGL 30H and CAS 100A/CAS 100B/CAS 100C. Each course is 3 credits.

## Genetics and Development Option: Biology, B.S. at University Park 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 $110^{\star \#}$ | 4 BIOL $230 W^{\star \#}$ | 4 |
| CHEM $110^{\star \# \dagger}$ | 3 CHEM $112^{\star \dagger}$ | 3 |
| CHEM $111^{\dagger}$ | 1 CHEM $113^{\dagger}$ | 1 |
| ENGL $15,30 \mathrm{H}$, or ESL $15^{\ddagger}$ | 3 MATH 141 B or $141^{\ddagger \dagger}$ | 4 |
| MATH 140 B or $140^{\star \ddagger \# \dagger}$ | 4 General Education Course | 3 |
| PSU 16 | 1 |  |
|  | 16 | 15 |

## Second Year

| Fall | Credits Spring | Credits |
| :---: | :---: | :---: |
| BIOL 220W* | 4 BIOL $240{ }^{\text {* }}$ | 4 |
| CHEM 210 | 3 CHEM 212 | 3 |
| MICRB 201 (consult with an academic adviser for alternative options) | 3 CHEM 213W | 2 |
| General Education Course | $\begin{aligned} & 3 \text { CAS 100, CAS 100A, CAS } \\ & 100 \mathrm{~B}, \text { or CAS } 100 \mathrm{C}^{\ddagger} \end{aligned}$ | 3 |
| Supporting course (consult with an academic adviser for options) | 3 BIOL 322 | 3 |
|  | 16 | 15 |

Third Year

| Fall | Credits Spring | Credits |
| :--- | :---: | ---: |
| BIOL 430 | 3 STAT 200, 240, or 250 | $3-4$ |
| BMB 401 | 3 BMB 402 | 3 |
| PHYS 250 (consult with | 4 PHYS 251 (consult with | 4 |
| and academic adviser for $^{\text {alternative options) }}$ + | an academic adviser for <br> alternative options) |  |
| General Education Course 3 General Education Course | 3 |  |
| General Education Course | 3 Supporting course (consult <br> with an academic adviser for <br> options) | 3 |
|  | $\mathbf{1 6}$ | $\mathbf{1 6 - 1 7}$ |

## Fourth Year

| Fall | Credits Spring | Credits |
| :--- | :---: | ---: |
| BIOL 400 Level Selection | 3 BIOL 400 Level Selection | 3 |
| (consult with an academic | (consult with an academic |  |
| adviser for options) | adviser for options) |  |
| BIOL 400 Level Selection | 3 BIOL 400 Level Selection | 3 |
| (consult with an academic | (consult with an academic |  |
| adviser for options) | adviser for options) |  |
| ENGL 202A, 202B, or 202C | 3 General Education Course | 3 |
| General Education Course | 3 General Education Course | 3 |

Supporting course (consult with an academic adviser for options)

3 Supporting course (consult with an academic adviser for options)

## Total Credits 124-125

* 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:

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.

All incoming Schreyer Honors College first-year students at University Park will take ENGL 137H/CAS 137H in the fall semester and ENGL 138T/CAS 138T in the spring semester. These courses carry the GWS designation and satisfy a portion of that General Education requirement. If the student's program prescribes GWS these courses will replace both ENGL 15/ENGL 30H and CAS 100A/CAS 100B/CAS 100C. Each course is 3 credits.

## Neuroscience Option: Biology, B.S. at University Park 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 $110^{\star \#}$ | 4 BIOL $230 W^{* \#}$ | 4 |
| CHEM $110^{\star \# \dagger}$ | 3 CHEM $112^{* \dagger}$ | 3 |
| CHEM $111^{\dagger}$ | 1 CHEM $113^{\dagger}$ | 1 |
| ENGL $15,30 \mathrm{H}$, or ESL $15^{\ddagger}$ | 3 MATH 141 B or $141^{\ddagger \dagger}$ | 4 |
| MATH 140 B or $140^{\star \# \dagger}$ | 4 General Education Course | 3 |
| PSU 16 | 1 |  |
|  | 16 | $\mathbf{1 5}$ |


| Second Year |  |  |
| :---: | :---: | :---: |
| Fall | Credits Spring | Credits |
| BIOL 220w* | 4 BIOL $240{ }^{*}$ | 4 |
| CHEM 210 | 3 CHEM 212 | 3 |
| STAT 200, 240, or 250 | 3-4 CHEM 213W | 2 |
| General Education Course | $\begin{aligned} & 3 \text { CAS 100, CAS 100A, CAS } \\ & 100 \mathrm{~B}, \text { or CAS } 100 \mathrm{C}^{\ddagger} \end{aligned}$ | 3 |
| Supporting course (consult with an academic adviser for options) | 3 Supporting course (consult with an academic adviser for options) | 3 |


|  | 16-17 | 15 |
| :---: | :---: | :---: |
| Third Year |  |  |
| Fall | Credits Spring | Credits |
| BIOL 469 or BBH 469 | 3 BIOL 470 or BBH 470 | 3 |
| BMB 401 | 3 BMB 402 | 3 |
| PHYS 250 (consult with an academic adviser for alternative options) ${ }^{\dagger}$ | 4 PHYS 251 (consult with adviser) | 4 |
| General Education Course | 3 General Education Course | 3 |
| Supporting course (consult with an academic adviser for options) | 3 Supporting course (consult with an academic adviser for options) | 3 |

$16 \quad 16$

## Fourth Year

| Fall | Credits Spring | Credits |
| :---: | :---: | :---: |
| BIOL 400 Level Selection (consult with an academic adviser for options) | 3 BIOL 400 Level Selection (consult with an academic adviser for options) | 3 |
| BIOL 400 Level Selection (consult with an academic adviser for options) | 3 BIOL 400 Level Selection (consult with an academic adviser for options) | 3 |
| General Education Course | 3 General Education Course | 3 |
| ENGL 202C, 202A, 202B, or $202 D^{\ddagger}$ | 3 General Education Course | 3 |

Supporting course (consult with an academic adviser for options)

3 Supporting course (consult with an academic adviser for options)

## Total Credits 124-125

* 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:

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.

All incoming Schreyer Honors College first-year students at University Park will take ENGL 137H/CAS 137H in the fall semester and ENGL 138T/CAS 138T in the spring semester. These courses carry the GWS designation and satisfy a portion of that General Education requirement. If the student's program prescribes GWS these courses will replace both ENGL 15/ENGL 30H and CAS 100A/CAS 100B/CAS 100C. Each course is 3 credits.

## Plant Biology Option: Biology, B.S. at University Park 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


Second Year

| Fall | Credits Spring | Credits |
| :--- | :---: | ---: |
| BIOL 220W | 4 BIOL 240W |  |
| CHEM 210 | 3 CHEM 212 | 4 |
| STAT 200, 240, | $3-4$ CHEM 213W | 3 |

or 250

| Supporting course (consult with an academic adviser for options) | $\begin{aligned} & 3 \text { CAS 100, CAS } \\ & \text { 100A, CAS } \\ & 100 \mathrm{~B}, \text { or CAS } \\ & 100 \mathrm{C}^{\ddagger} \end{aligned}$ | 3 |
| :---: | :---: | :---: |
| General <br> Education Course | 3 Supporting course (consult with an academic adviser for options) | 3 |
| 16-17 |  | 15 |

## Third Year

| Fall | Credits Spring | Credits Summer | Credits |
| :---: | :---: | :---: | :---: |
| BIOL 441 | 3 BIOL 407 | 3 BIOL 414 | 3 |
| BMB 401 | 3 BMB 402 | 3 |  |
| PHYS 250 (consult with an academic adviser for alternative optoins) ${ }^{\dagger}$ | 4 PHYS 251 <br> (consult with an academic adviser for alternative options) | 4 |  |
| General <br> Education Course | 3 General Education Course | 3 |  |


| Supporting course (consult with an academic adviser for options) | 3 Supporting course (consult with an academic adviser for options) | 3 |  |
| :---: | :---: | :---: | :---: |
|  | 16 | 16 | 3 |
| Fourth Year |  |  |  |
| Fall | Credits Spring | Credits |  |
| BIOL 400 Level Selection (consult with an academic adviser for options) | 3 BIOL 400 Level Selection (consult with an academic adviser for options) | 3 |  |
| BIOL 400 Level Selection (consult with an academic adviser for options) | 3 General <br> Education Course | 3 |  |
| General Education Course | 3 General <br> Education Course | 3 |  |
| $\begin{aligned} & \text { ENGL 202C, } \\ & \text { 202A, 202B, or } \\ & \text { 202D } \end{aligned}$ | 3 Supporting course (consult with an academic adviser for options) | 3 |  |
| Supporting course (consult with an academic adviser for options) |  |  |  |
|  | 15 | 12 |  |
| Total Credits 124-125 |  |  |  |
| * Course requires a grade of $C$ or better for the major <br> $\ddagger$ Course requires a grade of C or better for General Education <br> \# Course is an Entrance to Major requirement <br> † 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). |  |  |  |
| $\mathrm{W}, \mathrm{M}, \mathrm{X}$, 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.

All incoming Schreyer Honors College first-year students at University Park will take ENGL 137H/CAS 137H in the fall semester and ENGL 138T/CAS 138T in the spring semester. These courses carry the GWS designation and satisfy a portion of that General Education requirement. If the student's program prescribes GWS these courses will replace both ENGL 15/ENGL 30H and CAS 100A/CAS 100B/CAS 100 C.
Each course is 3 credits.

## Vertebrate Physiology Option: Biology, B.S. at University Park Campus

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## First Year

| Fall | Credits Spring | Credits |
| :--- | :---: | ---: |
| BIOL $110^{\star \#}$ | 4 BIOL $230 W^{\star \#}$ | 4 |
| CHEM $110^{\star \# \dagger}$ | 3 CHEM $112^{*+}$ | 3 |
| CHEM $111^{\dagger}$ | 1 CHEM $113^{\dagger}$ | 1 |
| ENGL $15,30 \mathrm{H}$, or ESL 15 | 3 MATH 141 B or $141^{\ddagger \dagger}$ | 4 |
| MATH 140 B or $140^{\star+\# \dagger}$ | 4 General Education Course | 3 |
| PSU 16 | 1 |  |
|  | 16 | 15 |

## Second Year

| Fall | Credits Spring | Credits |
| :---: | :---: | :---: |
| BIOL 220w ${ }^{*}$ | 4 BIOL 240W\# | 4 |
| CHEM 210 | 3 CHEM 212 | 3 |
| STAT 200, 240, or 250 | 3-4 CHEM 213W | 2 |
| General Education Course | 3 CAS 100, CAS 100A, CAS 100 B , or CAS $100 \mathrm{C}^{\ddagger}$ | 3 |
| Supporting course (consult with an academic adviser for options) | 3 Supporting course (consult with an academic adviser for options) | 3 |


|  | 16-17 | 15 |
| :---: | :---: | :---: |
| Third Year |  |  |
| Fall | Credits Spring | Credits |
| BIOL 472 | 3 BIOL 473 | 2 |
| BMB 401 | 3 BMB 402 | 3 |
| PHYS 250 (consult with an academic adviser for alternative options) ${ }^{\dagger}$ | 4 PHYS 251 (consult with an academic adviser for alterntative options) | 4 |
| General Education Course | 3 General Education Course | 3 |
| Supporting course (consult with an academic adviser for options) | 3 Supporting course (consult with an academic adviser for options) | 3 |

$16 \quad 15$

## Fourth Year

| Fall | Credits Spring | Credits |
| :--- | :---: | ---: |
| BIOL 400 Level Selection | 3 BIOL 400 Level Selection | 3 |
| (consult with an academic | (consult with an academic <br> adviser for options) |  |
| adviser for options) | 3 BIOL 400 Level Selection | 3 |
| BIOL 400 Level Selection <br> (consult with an academic <br> adviser for options) | (consult with an academic <br> adviser for options) |  |
| General Education Course | 3 General Education Course | 3 |
| ENGL 202C, 202A, 202B, or | 3 General Education Course | 3 |
| 202D |  |  |

Supporting course (consult with an academic adviser for options)

3 Supporting course (consult with an academic adviser for options)

| Elective Course | $\mathbf{1}$ |
| :--- | ---: |
| $\mathbf{5}$ | $\mathbf{1 6}$ |

## Total Credits 124-125

* 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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$W, M, X$, 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.

All incoming Schreyer Honors College first-year students at University Park will take ENGL 137H/CAS 137H in the fall semester and ENGL 138T/CAS 138T in the spring semester. These courses carry the GWS designation and satisfy a portion of that General Education requirement. If the student's program prescribes GWS these courses will replace both ENGL 15/ENGL 30H and CAS 100A/CAS 100B/CAS 100C. Each course is 3 credits.

## Ecology Option: Biology, B.S. at University Park 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 $110^{\star \#}$ | 4 BIOL $230 W^{\star \#}$ | 4 |
| CHEM $110^{\star \# \dagger}$ | 3 CHEM $112^{* \dagger}$ | 3 |
| CHEM $111^{\dagger}$ | 1 CHEM $113^{\dagger}$ | 1 |
| ENGL $15,30 \mathrm{H}$, or ESL $15^{\ddagger}$ | 3 MATH 141 B or $141^{\ddagger \dagger}$ | 4 |
| MATH 140 B or $140^{\star \ddagger \# \dagger}$ | 4 General Education Course | 3 |
| PSU 16 | 1 |  |
|  | $\mathbf{1 6}$ | $\mathbf{1 5}$ |


| Second Year |  |  |
| :--- | :---: | ---: |
| Fall | Credits Spring | Credits |
| BIOL 220W |  |  |


|  | 16-17 | 15 |
| :---: | :---: | :---: |
| Third Year |  |  |
| Fall | Credits Spring | Credits |
| BIOL 400 Level Selection (consult with an academic adviser for options) | 3 BIOL 400 Level Selection (consult with an academic adviser for options) | 3 |
| STAT 462 (see adviser for alternatives) | 3 Elective Course | 3 |
| PHYS 250 (consult with an academic adviser for alternative options) ${ }^{\dagger}$ | 4 PHYS 251 (consult with an academic adviserfor alternative options) | 4 |
| General Education Course | 3 General Education Course | 3 |
| Supporting course (consult with an academic adviser for options) | 3 Supporting course (consult with an academic adviser for options) | 3 |
|  | 16 | 16 |

Fourth Year

| Fall | Credits Spring | Credits |
| :--- | :---: | ---: |
| BIOL 400 Level Selection | 3 BIOL 400 Level Selection | 3 |
| (consult with an academic | (consult with an academic |  |
| adviser for options) | adviser for options) |  |
| BIOL 400 Level Selection | 3 BIOL 400 Level Selection | 3 |
| (consult with an academic | (consult with an academic <br> adviser for options) |  |
| adviser for options) | 3 General Education Course | 3 |


| ENGL 202C, 202A, 202B, or $202 D^{\ddagger}$ | 3 General Education Course | 3 |
| :---: | :---: | :---: |
| Supporting course (consult with an academic adviser for options) | 3 Supporting course (consult with an academic adviser for options) | 3 |

## Total Credits 124-125

* 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:

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.

All incoming Schreyer Honors College first-year students at University Park will take ENGL 137H/CAS 137H in the fall semester and ENGL 138T/CAS 138T in the spring semester. These courses carry the GWS designation and satisfy a portion of that General Education requirement. If the student's program prescribes GWS these courses will replace both ENGL 15/ENGL 30H and CAS 100A/CAS 100B/CAS 100C. Each course is 3 credits.

## Biology, B.S. at Commonwealth Campuses

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 $230{ }^{* \#}$ | 4 |
| CHEM 110** | 3 CHEM $112{ }^{\text {* }}$ | 3 |
| CHEM $111^{\dagger}$ | 1 CHEM $113^{+}$ | 1 |
| ENGL 15, 30H, or ESL 15 | 3 MATH 141B or $141^{\ddagger \dagger}$ | 4 |
| MATH 140B or $140{ }^{\text {* }} \ddagger$ | 4 General Education Course | 3 |
|  | 15 | 15 |

## Second Year

| Fall | Credits Spring | Credits |
| :---: | :---: | :---: |
| BIOL 220w*\# | $4 \mathrm{BIOL} 240{ }^{\text {* }}{ }^{\text {\# }}$ | 4 |
| CHEM 210 (consult with an academic adviser for alternative options) | 3 CHEM 212 (consult with an academic adviser for alternative options) | 3 |
| STAT 200, 240, or 250 | 3-4 CHEM 213W (consult with an academic adviser for alternative options) | 2 |
| General Education Course | 3 CAS 100, CAS 100A, CAS 100B, or CAS $100 \mathrm{C}^{\ddagger}$ | 3 |
| Supporting course (consult with an academic adviser for options) | 3 Supporting course (consult with an academic adviser for options) | 3 |


|  | 16-17 | 15 |
| :---: | :---: | :---: |
| Third Year |  |  |
| Fall | Credits Spring | Credits |
| BIOL 400 Level Selection (consult with an academic adviser for options) | 3 BIOL 400 Level Selection (consult with an academic adviser for options) | 3 |
| PHYS 250 (consult with an academic adviser for alternative options) ${ }^{\dagger}$ | 4 PHYS 251 (consult with adviser for alternative) | 4 |
| Supporting course (consult with an academic adviser for options) | 3 Supporting course (consult with an academic adviser for options) | 3 |
| General Education Course | 3 General Education Course | 3 |
| Supporting course (consult with an academic adviser for options) | 3 Supporting course (consult with an academic adviser for options) | 3 |

16
16

## Fourth Year

| Fall | Credits Spring | Credits |
| :--- | :---: | ---: |
| BIOL 400 Level Selection | 3 BIOL 400 Level Selection | 3 |
| (consult with an academic | (consult with an academic |  |
| adviser for options) | adviser for options) |  |
| BIOL 400 Level Selection | 3 BIOL 400 Level Selection | 3 |
| (consult with an academic | (consult with an academic |  |
| adviser for options) | adviser for options) |  |


| General Education Course | 3 General Education Course | 3 |
| :---: | :---: | :---: |
| ENGL 202C, 202A, 202B, or 202D | 3 General Education Course | 3 |
| Supporting course (consult with an academic adviser for options) | 3 Supporting course (consult with an academic adviser for options) | 3 |
| Supporting course (consult with an academic adviser for options) | 1 |  |
|  | 16 | 15 |

## Total Credits 124-125

* 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:

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.

