

# SCIENCE, 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 Option: Science, 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 <sup>*#†</sup>	4 BIOL 230W (Consult with an adviser for alternative options)	4
CHEM 110 <sup>*#†</sup>	3 CHEM 112 <sup>†</sup>	3
CHEM 111 <sup>†</sup>	1 CHEM 113 <sup>†</sup>	1
ENGL 15, 30H, or ESL 15 <sup>‡</sup>	3 MATH 141 <sup>††</sup>	4
MATH 140 or 140B <sup>*†#†</sup>	4 General Education Course	3
PSU 16	1	
	<b>16</b>	<b>15</b>

#### Second Year

Fall	Credits Spring	Credits
CAS 100, CAS 100A, CAS 100B, or CAS 100C <sup>‡</sup>	3 PHYS 251 or 212	4
PHYS 250 or 211 <sup>*#</sup>	4 Life, Mathematical, or Physical Science Course (consult with an academic adviser for options)	3
Life, Mathematical, or Physical Science Course (consult with an academic adviser for options)	3 Teamwork and Interpersonal Communication Course (from Department List)	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
	<b>16</b>	<b>16</b>

#### Third Year

Fall	Credits Spring	Credits
ENGL 202C, 202A, 202B, or 202D <sup>‡</sup>	3 400-level Life, Mathematical, or Physical Science Course <sup>*</sup>	3

PHYS 213 (or Supporting Course)	2 Earth and Mineral Science Course (from Department List)	3
PHYS 214 (or Supporting Course)	2 General Education Course	3
Life, Mathematical, or Physical Science Course (consult with an academic adviser for options)	3 General Education Course	3
STAT 250 (consult with an adviser for options)	3 Supporting course (consult with an academic adviser for options)	3
Global, Social, and Personal Awareness Course (from Department List)	3	
	<b>16</b>	<b>15</b>

#### Fourth Year

Fall	Credits Spring	Credits
400-level Life, Mathematical, or Physical Science Course <sup>*</sup>	3 400-level Life, Mathematical, or Physical Science Course <sup>*</sup>	3
400-level Supporting Course	3 400-level Supporting 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)	3
Supporting course (consult with an academic adviser for options)	3 Supporting course (consult with an academic adviser for options)	3
	<b>15</b>	<b>15</b>

#### Total Credits 124

\* 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.

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.

# Course required with a C or better to enter the Science major are: MATH 140; and two out of the three of BIOL 110, CHEM 110, and either PHYS 250 or PHYS 211

Course can be taken from the following Departments for Mathematical, or Physical Science Course: LIFE (BIOL, BIOTC, BMB, MICRB); Mathematical (CMPSC, MATH, STAT); and Physical (ASTRO, CHEM, PHYS).

## General Option (ALEKS Placement in MATH 22): Science, B.S. at University Park Campus

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### First Year

Fall	Credits Spring	Credits
BIOL 110	4 BIOL 230W or 240W	4
GA/GH/GS/GHA/GHW	3 STAT 200	4
ENGL 15	3 MATH 26	3
MATH 22	3 GA/GH/GS/GHA/GHW	3
PSU 16	1	
	<b>14</b>	<b>14</b>

### Second Year

Fall	Credits Spring	Credits
CHEM 110 & CHEM 111	4 CHEM 112 & CHEM 113	4
MATH 140	4 MATH 141	4
PHYS 250	4 PHYS 251	4
CAS 100	3 GA/GH/GS/GHA/GHW	3
GA/GH/GS/GHA/GHW	3 Teamwork and Interpersonal Communication Course (Department List)	3
	<b>18</b>	<b>18</b>

### Third Year

Fall	Credits Spring	Credits
ENGL 202	3 College of Earth and Mineral Science Course	3
Life, Math, or Physical Science Course	3 GA/GH/GS/GHA/GHW	3
Global, Social, Personal Awareness Course (Department List)	3 Supporting Course	3
Supporting Course	3 Life, Math, or Physical Science Course	3
Supporting Course	3 Life, Math, or Physical Science Course	3
	<b>15</b>	<b>15</b>

### Fourth Year

Fall	Credits Spring	Credits
400-Level Life, Math, or Physical Science	3 400-Level Life, Math, or Physical Science	3
400-Level Supporting Course	3 400-Level Life, Math, or Physical Science	3
GA/GH/GS/GHA/GHW	3 400-Level Supporting Course	3
Supporting Course	3 GA/GH/GS/GHA/GHW	3
Supporting Course	3 Supporting Course	3
	<b>15</b>	<b>15</b>

**Total Credits 124**

\* 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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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 replace both ENGL 15/ENGL 30H and CAS 100A/CAS 100B/CAS 100C. Each course is 3 credits.

## General Option: Science, 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 <sup>**†</sup>	4 CHEM 112 <sup>†</sup>	3
CHEM 110 <sup>**†</sup>	3 CHEM 113 <sup>†</sup>	1
CHEM 111 <sup>†</sup>	1 MATH 141 <sup>††</sup>	4
ENGL 15, 30H, or ESL 15 <sup>‡</sup>	3 PHYS 250 or 211 <sup>*#</sup>	4
MATH 140 or 140B <sup>*†#†</sup>	4 General Education Course	3
PSU 16	1	
	<b>16</b>	<b>15</b>

### Second Year

Fall	Credits Spring	Credits
BIOL 230W (consult with an adviser for alternative options)	4 PHYS 213 (or supporting course)	2
CAS 100, CAS 100A, CAS 100B, or CAS 100C <sup>‡</sup>	3 PHYS 214 (or supporting course)	2
PHYS 251 or 212	4 Life, Mathematical, or Physical Science Course (consult with an academic adviser for options)	3
Life, Mathematical, or Physical Science Course (consult with an academic adviser for options)	3 Teamwork and Interpersonal Communication Course (from Department List)	3
General Education Course (GHW)	1.5 General Education Course	3
	Life, Mathematical, or Physical Science Course (consult with an academic adviser for options)	3
	<b>15.5</b>	<b>16</b>

### Third Year

Fall	Credits Spring	Credits
Life, Mathematical, or Physical Science Course (consult with an academic adviser for options) <sup>†</sup>	3 400-level Life, Mathematical, or Physical Science Course <sup>*</sup>	3
ENGL 202C, 202A, 202B, or 202D <sup>‡</sup>	3 Earth and Mineral Science Course (from Department List)	3
STAT 250 (consult with an academic adviser for alternative options)	3 General Education Course	3
Global, Social, and Personal Awareness Course (from Department List)	3 General Education Course (GHW)	1.5

General Education Course	3 Supporting course (consult with an academic adviser for options)	3
	Supporting course (consult with an academic adviser for options)	3
	<b>15</b>	<b>16.5</b>

### Fourth Year

Fall	Credits Spring	Credits
400-level Life, Mathematical, or Physical Science Course <sup>*</sup>	3 400-level Life, Mathematical, or Physical Science Course <sup>*</sup>	3
400-level Supporting Course	3 400-level Supporting 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)	3
Supporting course (consult with an academic adviser for options)	3 Supporting course (consult with an academic adviser for options)	3
	<b>15</b>	<b>15</b>

### Total Credits 124

\* 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

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Course required with a C or better to enter the Science major are: MATH 140; and two out of the three of BIOL 110, CHEM 110, and either PHYS 250 or PHYS 211

Course can be taken from the following Departments for Mathematical, or Physical Science Course: LIFE (BIOL, BIOTC, BMB, MICRB); Mathematical (CMPSC, MATH, STAT); and Physical (ASTRO, CHEM, PHYS).

## Legal Studies, Government Service, Public Policy Option: Science, B.S. at University Park Campus

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### First Year

Fall	Credits	Spring	Credits
BIOL 110 <sup>*#†</sup>	4	BIOL 230W (consult with an adviser for alternative options)	4
CHEM 110 <sup>*#†</sup>	3	CHEM 112 <sup>†</sup>	3
CHEM 111 <sup>†</sup>	1	CHEM 113 <sup>†</sup>	1
ENGL 15, 30H, or ESL 15 <sup>†</sup>	3	MATH 141 or 141B <sup>††</sup>	4
MATH 140 <sup>*†#†</sup>	4	General Education Course	3
PSU 16	1		
	<b>16</b>		<b>15</b>

### Second Year

Fall	Credits	Spring	Credits
CAS 100, CAS 100A, CAS 100B, or CAS 100C <sup>†</sup>	3	PHYS 251 or 212	4
PHYS 250 or 211 <sup>*#</sup>	4	Life, Mathematical, or Physical Science Course <sup>^</sup>	3
Life, Mathematical, or Physical Science Course	3	Legal Studies, Government Service, Public Policy Course (from Department List)	3
Legal Studies, Government Service, Public Policy Course (from Department List)	3	General Education Course	3
General Education Course	3	Supporting course (consult with an academic adviser for options)	3
	<b>16</b>		<b>16</b>

### Third Year

Fall	Credits	Spring	Credits
ENGL 202C, 202A, 202B, or 202D <sup>†</sup>	3	400-level Life, Mathematical, or Physical Science Course <sup>*</sup>	3
PHYS 213 (or supporting course)	2	Legal Studies, Government Service, Public Policy Course (from Department List)	3
PHYS 214 (or supporting course)	2	Teamwork and Interpersonal Communication Course (from Department List)	3
Life, Mathematical, or Physical Science Course	3	General Education Course	3
STAT 250 (consult with an adviser for alternative options)	3	Supporting course (consult with an academic adviser for options)	3
Legal Studies, Government Service, Public Policy Course (from Department List)	3		
	<b>16</b>		<b>15</b>

### Fourth Year

Fall	Credits	Spring	Credits
400-level Life, Mathematical, or Physical Science Course <sup>*</sup>	3	400-level Life, Mathematical, or Physical Science Course <sup>*</sup>	3
400-level Legal Studies, Government Service, Public Policy Course (from Department List)	3	400-level Legal Studies, Government Service, Public Policy Course (from Department List)	3
Global, Social, and Personal Awareness Course (from Department List)	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)	3
	<b>15</b>		<b>15</b>

### Total Credits 124

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Course required with a C or better to enter the Science major are: MATH 140; and two out of the three of BIOL 110, CHEM 110, and either PHYS 250 or PHYS 211

Course can be taken from the following Departments for Mathematical, or Physical Science Course: LIFE (BIOL, BIOTC, BMB, MICRB); Mathematical (CMPSC, MATH, STAT); and Physical (ASTRO, CHEM, PHYS).

## Legal Studies, Government Service, Public Policy Option (ALEKS Placement in MATH 22): Science, B.S. at University Park Campus

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### First Year

Fall	Credits Spring	Credits
BIOL 110 <sup>*#†</sup>	4 BIOL 230W (consult with an adviser for alternative options)	4
ENGL 15, 30H, or ESL 15 <sup>‡</sup>	3 CAS 100, CAS 100A, CAS 100B, or CAS 100C <sup>‡</sup>	3
General Education Course	3 CHEM 110 <sup>*#†</sup>	3
MATH 22	3 CHEM 111 <sup>†</sup>	1
PSU 16	1 MATH 26	3
	<b>14</b>	<b>14</b>

### Second Year

Fall	Credits Spring	Credits
CHEM 112 <sup>†</sup>	3 General Education Course	3
CHEM 113 <sup>†</sup>	1 Life, Mathematical, or Physical Science Course <sup>^</sup>	3
General Education Course	3 Legal Studies, Government Service, Public Policy Course (from Department List)	3
Life, Mathematical, or Physical Science Course	3 MATH 141B or 141 <sup>††</sup>	4
Legal Studies, Government Service, Public Policy Course (from Department List)	3 Supporting course (consult with an academic adviser for options)	3
MATH 140B or 140 <sup>*†#†</sup>	4	
	<b>17</b>	<b>16</b>

### Third Year

Fall	Credits Spring	Credits
ENGL 202C, 202A, 202B, or 202D <sup>‡</sup>	3 400-level Life, Mathematical, or Physical Science Course <sup>*</sup>	3
Life, Mathematical, or Physical Science Course	3 Legal Studies, Government Service, Public Policy Course (from Department List)	3
Legal Studies, Government Service, Public Policy Course (from Department List)	3 Teamwork and Interpersonal Communication Course (from Department List)	3
PHYS 250 or 211 <sup>*#</sup>	4 General Education Course	3
STAT 250 (consult with an adviser for alternative options)	3 PHYS 251 or 212	4
	<b>16</b>	<b>16</b>

### Fourth Year

Fall	Credits Spring	Credits
400-level Life, Mathematical, or Physical Science Course <sup>*</sup>	3 400-level Life, Mathematical, or Physical Science Course <sup>*</sup>	3

400-level Legal Studies, Government Service, Public Policy Course (from Department List)	3 400-level Legal Studies, Government Service, Public Policy Course (from Department List)	3
Global, Social, and Personal Awareness Course (from Department List)	3 General Education Course	3
General Education Course	3 General Education Course	3
PHYS 213 (or Supporting Course)	2 Supporting course (consult with an academic adviser for options)	3
PHYS 214 (or Supporting Course)	2	
	<b>16</b>	<b>15</b>
<b>Total Credits 124</b>		

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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.



## Legal Studies, Government Service, Public Policy Option: Science, 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 <sup>**†</sup>	4 CHEM 112 <sup>†</sup>	3
CHEM 110 <sup>**†</sup>	3 CHEM 113 <sup>†</sup>	1
CHEM 111 <sup>†</sup>	1 MATH 141 <sup>††</sup>	4
ENGL 15, 30H, or ESL 15 <sup>‡</sup>	3 PHYS 250 or 211 <sup>*#</sup>	4
MATH 140 <sup>*†#†</sup>	4 General Education Course	3
PSU 16	1	
	<b>16</b>	<b>15</b>

### Second Year

Fall	Credits Spring	Credits
BIOL 230W (consult with an adviser for alternative options)	4 PHYS 213 (or Supporting Course)	2
CAS 100, CAS 100A, CAS 100B, or CAS 100C <sup>‡</sup>	3 PHYS 214 (or Supporting Course)	2
PHYS 251 or 212	4 Life, Mathematical, or Physical Science Course	3
Life, Mathematical, or Physical Science Course	3 Legal Studies, Government Service, Public Policy Course (from Department List)	3
General Education Course (GHW)	1.5 Legal Studies, Government Service, Public Policy Course (from Department List)	3
	General Education Course	3
	<b>15.5</b>	<b>16</b>

### Third Year

Fall	Credits Spring	Credits
ENGL 202C, 202A, 202B, or 202D <sup>‡</sup>	3 400-level Life, Mathematical, or Physical Science Course <sup>*</sup>	3
Life, Mathematical, or Physical Science Course	3 Legal Studies, Government Service, Public Policy Course (from Department List)	3
STAT 250 (consult with an adviser for alternative options)	3 Teamwork and Interpersonal Communication Course (from Department List)	3
Legal Studies, Government Service, Public Policy Course (from Department List)	3 General Education Course	3
General Education Course	3 General Education Course (GHW)	1.5
	Supporting Course	3
	<b>15</b>	<b>16.5</b>

### Fourth Year

Fall	Credits Spring	Credits
400-level Life, Mathematical, or Physical Science Course <sup>*</sup>	3 400-level Life, Mathematical, or Physical Science Course <sup>*</sup>	3
400-level Legal Studies, Government Service, Public Policy Course (from Department List)	3 400-level Legal Studies, Government Service, Public Policy Course (from Department List)	3
Global, Social, and Personal Awareness Course (from Department List)	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 Supporting course (consult with an academic adviser for options)	3
	<b>15</b>	<b>15</b>

### Total Credits 124

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

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Course required with a C or better to enter the Science major are: MATH 140; and two out of the three of BIOL 110, CHEM 110, and either PHYS 250 or PHYS 211

Course can be taken from the following Departments for Mathematical, or Physical Science Course: LIFE (BIOL, BIOTC, BMB, MICRB); Mathematical (CMPSC, MATH, STAT); and Physical (ASTRO, CHEM, PHYS).

## Biological Science and Health Professions Option: Science, B.S. at University Park Campus

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### First Year

Fall	Credits Spring	Credits
BIOL 110 <sup>**†</sup>	4 BIOL 230W (consult with an adviser for alternative options)	4
CHEM 110 <sup>**†</sup>	3 CHEM 112 <sup>†</sup>	3
CHEM 111 <sup>†</sup>	1 CHEM 113 <sup>†</sup>	1
ENGL 15, 30H, or ESL 15 <sup>†</sup>	3 MATH 141B or 141 <sup>††</sup>	4
MATH 140B or 140 <sup>††</sup>	4 General Education Course	3
PSU 16	1	
	<b>16</b>	<b>15</b>

### Second Year

Fall	Credits Spring	Credits
CHEM 210 or 202	3 CHEM 212 or 203	3
HPA 101	3 PHYS 250 or 211 <sup>**</sup>	4
MICRB 201 (consult with an adviser for alternative options)	3 Healthcare/Medicine/Ethical Competencies Course (from Department List)	3
STAT 250 (consult with an adviser for alternative options)	3 Teamwork and Interpersonal Communication Course (from Department List)	3
General Education Course	3 General Education Course	3
	<b>15</b>	<b>16</b>

### Third Year

Fall	Credits Spring	Credits
CHEM 213W (or Supporting Course)	2 ENGL 202C, 202A, 202B, or 202D <sup>‡</sup>	3
PHYS 251 or 212	4 PHYS 213 (or Supporting Course)	2
Healthcare/Medicine/Ethical Competencies Course (from Department List)	3 PHYS 214 (or Supporting Course)	2
Global, Social, and Personal Awareness Course (from Department List)	3 400-level Life Science: BIOL, BIOTC, BMB, or MICRB <sup>*</sup>	3
General Education Course	3 Healthcare/Medicine/Ethical Competencies Course (from Department List)	3
	General Education Course	3
	<b>15</b>	<b>16</b>

### Fourth Year

Fall	Credits Spring	Credits
CAS 100, CAS 100A, CAS 100B, or CAS 100C <sup>‡</sup>	3 400-level Life Science: BIOL, BIOTC, BMB, or MICRB <sup>*</sup>	3

400-level Life Science: BIOL, BIOTC, BMB, or MICRB <sup>*</sup>	3 400-level Healthcare/Medicine/Ethical Competencies Course (from Department List)	3
400-level Healthcare/Medicine/Ethical Competencies Course (from Department List)	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 Supporting course (consult with an academic adviser for options)	3
Supporting course (consult with an academic adviser for options)	1	
	<b>16</b>	<b>15</b>

### Total Credits 124

\* 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.

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.

Courses required with a C or better to enter the Science major are: MATH 140; and two out of the three of BIOL 110, CHEM 110, and either PHYS 250 or PHYS 211.

Students intending to enter a health professional school should consult with an academic adviser on which organic chemistry sequence is appropriate.



## Biological Science and Health Professions Option (ALEKS Placement in MATH 22): Science, 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 <sup>**†</sup>	4 BIOL 230W (consult with an adviser for alternative options)	4
ENGL 15, 30H, or ESL 15 <sup>‡</sup>	3 CAS 100, CAS 100A, CAS 100B, or CAS 100C <sup>‡</sup>	3
General Education Course	3 CHEM 110 <sup>**†</sup>	3
MATH 22	3 CHEM 111 <sup>†</sup>	1
PSU 16	1 MATH 26	3
	<b>14</b>	<b>14</b>

### Second Year

Fall	Credits Spring	Credits
CHEM 112 <sup>†</sup>	3 CHEM 113 <sup>†</sup>	1
General Education Course	3 General Education Course	3
HPA 101	3 Healthcare/Medicine/Ethical Competencies Course (from Department List)	3
MICRB 201 (consult with an adviser for alternative options)	3 MATH 141B or 141 <sup>††</sup>	4
MATH 140B or 140 <sup>*††</sup>	4 STAT 250 (consult with an adviser for alternative options)	3
	Teamwork and Interpersonal Communication Course (from Department List)	3
	<b>16</b>	<b>17</b>

### Third Year

Fall	Credits Spring	Credits
CHEM 210 or 202	3 400-level Life Science: BIOL, BIOTC, BMB, or MICRB <sup>*</sup>	3
ENGL 202C, 202A, 202B, or 202D <sup>‡</sup>	3 CHEM 212 or 203	3
General Education Course	3 General Education Course	3
Global, Social, and Personal Awareness Course (from Department List)	3 Healthcare/Medicine/Ethical Competencies Course (from Department List)	3
PHYS 250 or 211 <sup>*#</sup>	4 PHYS 251 or 212	4
	<b>16</b>	<b>16</b>

### Fourth Year

Fall	Credits Spring	Credits
400-level Life Science: BIOL, BIOTC, BMB, or MICRB <sup>*</sup>	3 400-level Life Science: BIOL, BIOTC, BMB, or MICRB <sup>*</sup>	3

400-level Healthcare/Medicine/Ethical Competencies Course (from Department List)	3 400-level Healthcare/Medicine/Ethical Competencies Course (from Department List)	3
CHEM 213W (or Supporting Course)	2 General Education Course	3
General Education Course	3 PHYS 214 (or Supporting Course)	2
Healthcare/Medicine/Ethical Competencies Course (from Department List)	3 Supporting course (consult with an academic adviser for options)	3
PHYS 213 (or Supporting Course)	2 Supporting course (consult with an academic adviser for options)	1
	<b>16</b>	<b>15</b>

### Total Credits 124

\* 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.

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.

Students intending to enter a health professional school should consult with an academic adviser on which organic chemistry sequence is appropriate.

## Biological Science and Health Professions Option: Science, 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 <sup>**†</sup>	4 CHEM 112 <sup>†</sup>	3
CHEM 110 <sup>**†</sup>	3 CHEM 113 <sup>†</sup>	1
CHEM 111 <sup>†</sup>	1 MATH 141B or 141 <sup>††</sup>	4
ENGL 15, 30H, or ESL 15 <sup>‡</sup>	3 PHYS 250 or 211 <sup>*#</sup>	4
MATH 140B or 140 <sup>*††</sup>	4 General Education Course	3
PSU 16	1	
	<b>16</b>	<b>15</b>

### Second Year

Fall	Credits Spring	Credits
BIOL 230W (consult with an adviser for alternative options)	4 CHEM 212 or 202	3
CHEM 210 or 202	3 CHEM 213W (or supporting course)	2
HPA 101	3 PHYS 213 (or supporting course)	2
PHYS 251 or 212	4 PHYS 214 (or supporting course)	2
General Education Course	3 Healthcare/Medicine/Ethical Competencies Course (from Department List)	3
	General Education Course	3
	<b>17</b>	<b>15</b>

### Third Year

Fall	Credits Spring	Credits
MICRB 201 (consult with an adviser for alternative options)	3 ENGL 202C, 202A, 202B, or 202D <sup>‡</sup>	3
STAT 250 (consult with an adviser for alternative options)	3 400-level Life Science: BIOL, BIOTC, BMB, or MICRB <sup>*</sup>	3
Healthcare/Medicine/Ethical Competency Course (from Department List)	3 Healthcare/Medicine/Ethical Competencies Course (from Department List)	3
Teamwork and Interpersonal Communication Course (from Department List)	3 General Education Course	3
General Education Course	3 Supporting course (consult with an academic adviser for options)	3
	<b>15</b>	<b>15</b>

### Fourth Year

Fall	Credits Spring	Credits
CAS 100, CAS 100A, CAS 100B, or CAS 100C <sup>‡</sup>	3 400-level Life Science: BIOL, BIOTC, BMB or MICRB <sup>*</sup>	3
400-level Life Science: BIOL, BIOTC, BMB, or MICRB <sup>*</sup>	3 400-level Healthcare/Medicine/Ethical Competencies Course (from Department List)	3
400-level Healthcare/Medicine/Ethical Competencies Course (from Department List)	3 General Education Course	3
Global, Social, and Personal Awareness Course (from Department List)	3 Supporting course (consult with an academic adviser for options)	3
General Education Course	3 Supporting course (consult with an academic adviser for options)	3
Supporting course (consult with an academic adviser for options)	1	
	<b>16</b>	<b>15</b>

### Total Credits 124

\* 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.

Courses required with a C or better to enter the Science major are: MATH 140; and two out of the three of BIOL 110, CHEM 110, and either PHYS 250 or PHYS 211.

Students intending to enter a health professional school should consult with an academic adviser on which organic chemistry sequence is appropriate.