

EARTH SCIENCE AND POLICY, B.S.

Seven Penn State campuses are scheduled for closure after Spring 2027: DuBois, Fayette, New Kensington, Mont Alto, Shenango, Wilkes-Barre, and York. New students are not being admitted at these campuses.

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 2026-27 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 Option: Earth Science and Policy, 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
GEOSC 1 or 20	3 MATH 111, 141, or 141G	4
CHEM 110 (GN) [†]	3 Elective (2 cr needed if schedule MATH 111)	0
MATH 83, 110, 140, or 140G (GQ) ^{*†}	4 CHEM 112	3
CHEM 111 (GN) [†]	1 CHEM 113	1
EMSC 100S (GWS) ^{††}	3 PLSC 1 (GS) [†]	3
	ENGL 15, 30H, or ESL 15 (GWS) [‡]	3
	14	14

Second Year

Fall	Credits Spring	Credits
PHYS 211 or 250 (GN) [†]	4 STAT 200 (GQ) ^{††}	4
ECON 102 (GS) [†]	3 GEOG 126 or 326 (GS) [†]	3
BIOL 114 (GN) [†]	3 GEOSC 201, 202, 203, or 204 [*]	4
BIOL 115 (GN) [†]	1 CED 201 or EBF 200	3
PHIL 118, 133N, or METEO 133N (GH) [†]	3 General Education- Health and Wellness (GHW)	1.5
General Education- Health and Wellness (GHW)	1.5	
	15.5	15.5

Third Year

Fall	Credits Spring	Credits
GEOSC 201, 202, 203, or 204 [*]	4 EARTH 400	3

GEOG 364	3 Option elective	3
Option elective	3 Option elective	3
CAS 100 or ENGL 202C ^{††}	3 Option elective	3
EARTH 402 [*]	3 General education- Knowledge domain	3
	16	15

Fourth Year

Fall	Credits Spring	Credits
EARTH 495	3 Option elective	3
EBF 472, STAT 401, GEOSC 210, or EME 210 [*]	3 Option elective	3
GEOSC 450 [*]	3 Option elective	3
Option elective	3 Option elective	3
General education- Knowledge domain	3 General Education- Knowledge domain	3
	15	15

Total Credits 120

* 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.

¹ Students who begin their studies at non-UP locations and/or join the college after their first year should substitute CAS 100 (GWS), CAS 100A (GWS), CAS 100B (GWS), CAS 100C (GWS) or ENGL 202C (GWS) for EMSC 100S (GWS). EMSC 100S Earth and Mineral Sciences First year Seminar (3) is a required course only for students who begin their studies at UP in the College of Earth and Mineral Sciences.

Advising notes:

General Option electives (27 credits): Must include one writing across the curriculum course

Select 3 credits from: EARTH 2 GN(3), EARTH 100 GN(3), EARTH 111 GN;US(3), EGEE 101 GN(3), GEOG 10 GN (3), GEOG 30N GN/GS(3), GEOG 160 GS(3), METEO 3 GN(3), METEO 4 GN(3), SOILS 101 GN(3)

Select 12 credits from: ERM 300(3), EGEE 302(3), EGEE 412(3), FOR 455(3), FOR 470(3), GEOG 310(3), GEOG 363(3), GEOG 412(3), GEOSC 320(3), GEOSC 340(3), GEOSC 402Y IL(3), GEOSC 409W(3), GEOSC 413W(3), GEOSC 451(3), GEOSC 452(3), GEOSC 454(3), GEOSC 483(3), METEO 466(3), SOILS 415(3), SOILS 422(3), SOILS 450(3)

Select a total of 12 credits from the following:

3 to 6 credits from: CED 429(3), CED 431(3), EBF 484(3), ECON 302 GS(3), GEOG 424 US;IL(3)

6 to 9 credits from: CED 230(3), CED 309(3), CED 409(3), CED 410(3), ERM 411(3), GEOG 430(3), GEOG 431(3), GEOG 434(3), GEOG 438W(3), GEOG 439(3), EMSC/STS/SOC 420(3), PLSC 403(3), PLSC 412(3), PLSC 426(3), PLSC/STS 460(3), PLSC 471(3), PLSC 490(3), STS 201(3).

Water and Land Use Option: Earth Science and Policy, B.S. at University Park Campus

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First Year

Fall	Credits Spring	Credits
GEOSC 1 or 20	3 MATH 111, 141, or 141G	4
CHEM 110 (GN) [†]	3 Elective (2 cr needed if schedule MATH 111)	0
MATH 83, 110, 140, or 140G (GQ) ^{*†}	4 CHEM 112	3
CHEM 111 (GN) [†]	1 CHEM 113	1
EMSC 100S (GWS) ^{††1}	3 PLSC 1 (GS) [†]	3
	ENGL 15, 30H, or ESL 15 (GWS) [†]	3
	14	14

Second Year

Fall	Credits Spring	Credits
PHYS 211 or 250 (GN) [†]	4 STAT 200 (GQ) ^{††}	4
ECON 102 (GS) [†]	3 GEOG 126 or 326 (GS) [†]	3
BIOL 114 (GN) [†]	3 GEOSC 201, 202, 203, or 204 [*]	4
BIOL 115 (GN) [†]	1 CED 201 or EBF 200	3
PHIL 118, 133N, or METEO 133N (GH) [†]	3 General Education- Health and Wellness (GHW)	1.5
General Education- Health and Wellness (GHW)	1.5	
	15.5	15.5

Third Year

Fall	Credits Spring	Credits
GEOSC 201, 202, 203, or 204 [*]	4 EARTH 400	3
GEOG 364	3 Option elective	3
Option elective	3 Option elective	3
CAS 100 or ENGL 202C ^{††}	3 Option elective	3
EARTH 402 [*]	3 General education- Knowledge domain	3
	16	15

Fourth Year

Fall	Credits Spring	Credits
EARTH 495	3 Option elective	3
EBF 472, STAT 401, GEOSC 210, or EME 210 [*]	3 Option elective	3
GEOSC 450 [*]	3 Option elective	3
Option elective	3 Option elective	3

General education- Knowledge domain	3 General Education- Knowledge domain	3
	15	15

Total Credits 120

* 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.

¹ Students who begin their studies at non-UP locations and/or join the college after their first year should substitute CAS 100 (GWS), CAS 100A (GWS), CAS 100B (GWS), CAS 100C (GWS) or ENGL 202C (GWS) for EMSC 100S (GWS). EMSC 100S Earth and Mineral Sciences First year Seminar (3) is a required course only for students who begin their studies at UP in the College of Earth and Mineral Sciences.

Advising notes:

Water and Land Use Option electives (27 credits): Must include one writing across the curriculum course

Select 3 credits from: EARTH 111 GN;US(3), GEOG 160 GS(3), SOILS 101 GN(3)

Select 12 credits from: ERM 300(3), FOR 455(3), FOR 470(3), GEOG 363(3), GEOSC 340(3), GEOSC 402Y IL(3), GEOSC 409W(3), GEOSC 413W(3), GEOSC 452(3), GEOSC 483(3), SOILS 415(3), SOILS 422(3), SOILS 450(3)

Select a total of 12 credits from the following:

3 to 6 credits from: CED 429(3), CED 431(3), ECON 302 GS(3)

6 to 9 credits from: CED 309(3), CED 409(3), CED 410(3), GEOG 430(3), GEOG 431(3), GEOG 434(3), GEOG 439(3), PLSC/STS 460(3), PUBPL 481(3)

Climate Change Option: Earth Science and Policy, B.S. at University Park Campus

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First Year

Fall	Credits Spring	Credits
GEOSC 1 or 20	3 MATH 111, 141, or 141G	4
CHEM 110 (GN) [†]	3 Elective (2 cr needed if schedule MATH 111)	0
MATH 83, 110, 140, or 140G (GQ) ^{*†}	4 CHEM 112	3
CHEM 111 (GN) [†]	1 CHEM 113	1
EMSC 100S (GWS) ^{††1}	3 PLSC 1 (GS) [†]	3
	ENGL 15, 30H, or ESL 15 (GWS) [†]	3
	14	14

Second Year

Fall	Credits Spring	Credits
PHYS 211 or 250 (GN) [†]	4 STAT 200 (GQ) ^{††}	4
ECON 102 (GS) [†]	3 GEOG 126 or 326 (GS) [†]	3
BIOL 114 (GN) [†]	3 GEOSC 201, 202, 203, or 204 [*]	4
BIOL 115 (GN) [†]	1 CED 201 or EBF 200	3
PHIL 118, 133N, or METEO 133N (GH) [†]	3 General Education- Health and Wellness (GHW)	1.5
General Education- Health and Wellness (GHW)	1.5	
	15.5	15.5

Third Year

Fall	Credits Spring	Credits
GEOSC 201, 202, 203, or 204 [*]	4 EARTH 400	3
GEOG 364	3 Option elective	3
Option elective	3 Option elective	3
CAS 100 or ENGL 202C ^{††}	3 Option elective	3
EARTH 402 [*]	3 General education- Knowledge domain	3
	16	15

Fourth Year

Fall	Credits Spring	Credits
EARTH 495	3 Option elective	3
EBF 472, STAT 401, GEOSC 210, or EME 210 [*]	3 Option elective	3
GEOSC 450 [*]	3 Option elective	3
Option elective	3 Option elective	3

General education- Knowledge domain	3 General Education- Knowledge domain	3
	15	15

Total Credits 120

* 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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University Requirements and General Education Notes:

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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.

¹ Students who begin their studies at non-UP locations and/or join the college after their first year should substitute CAS 100 (GWS), CAS 100A (GWS), CAS 100B (GWS), CAS 100C (GWS) or ENGL 202C (GWS) for EMSC 100S (GWS). EMSC 100S Earth and Mineral Sciences First year Seminar (3) is a required course only for students who begin their studies at UP in the College of Earth and Mineral Sciences.

Advising notes:

Climate Change Option electives (27 credits): Must include one writing across the curriculum course

Select 3 credits from: EARTH 2 GN(3), GEOG 110 GN(3), METEO 3 GN(3), METEO 4 GN(3)

Select 12 credits from: GEOG 310(3), GEOG 412(3), GEOSC 320(3), GEOSC/METEO 475(3), METEO 201(3), METEO 466(3)

Select a total of 12 credits from the following:

3 to 6 credits from: CED 429(3), CED 431(3), ECON 302(3)

6 to 9 credits from: CED 230(3), CED 410(3), EMSC/STS/SOC 420(3), GEOG 430(3), GEOG 434(3), GEOG 438W(3), PLSC/STS 460(3), STS 201(3)

Energy Option: Earth Science and Policy, B.S. at University Park Campus

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First Year

Fall	Credits Spring	Credits
GEOSC 1 or 20	3 MATH 111, 141, or 141G	4
CHEM 110 (GN) [†]	3 Elective (2 cr needed if schedule MATH 111)	0
MATH 83, 110, 140, or 140G (GQ) ^{*†}	4 CHEM 112	3
CHEM 111 (GN) [†]	1 CHEM 113	1
EMSC 100S (GWS) ^{††1}	3 PLSC 1 (GS) [†]	3
	ENGL 15, 30H, or ESL 15 (GWS) [†]	3
	14	14

Second Year

Fall	Credits Spring	Credits
PHYS 211 or 250 (GN) [†]	4 STAT 200 (GQ) ^{††}	4
ECON 102 (GS) [†]	3 GEOG 126 or 326 (GS) [†]	3
BIOL 114 (GN) [†]	3 GEOSC 201, 202, 203, or 204 [*]	4
BIOL 115 (GN) [†]	1 CED 201 or EBF 200	3
PHIL 118, 133N, or METEO 133N (GH) [†]	3 General Education- Health and Wellness (GHW)	1.5
General Education- Health and Wellness (GHW)	1.5	
	15.5	15.5

Third Year

Fall	Credits Spring	Credits
GEOSC 201, 202, 203, or 204 [*]	4 EARTH 400	3
GEOG 364	3 Option elective	3
Option elective	3 Option elective	3
CAS 100 or ENGL 202C ^{††}	3 Option elective	3
EARTH 402 [*]	3 General education- Knowledge domain	3
	16	15

Fourth Year

Fall	Credits Spring	Credits
EARTH 495	3 Option elective	3
EBF 472, STAT 401, GEOSC 210, or EME 210 [*]	3 Option elective	3
GEOSC 450 [*]	3 Option elective	3
Option elective	3 Option elective	3

General education- Knowledge domain	3 General Education- Knowledge domain	3
	15	15

Total Credits 120

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Course is an Entrance to Major requirement

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Advising notes:

Energy Option electives (27 credits): Must include one writing across the curriculum course

Select 3 credits from: EARTH 100 GN(3), EGEE 101 GN(3), EGEE 102 GN(3)

Select 9 credits from: EGEE 302(3), EGEE 401(3), EGEE 412(3), GEOSC 451(3), GEOSC 454(3), GEOSC 483(3)

Select 3 credits from: EBF 484(3), GEOG 424 US;IL(3)

Select 12 credits from: CED 230(3), CED 410(3), EMSC/STS/SOC 420(3), GEOG 430(3), GEOG 434(3), GEOG 438W(3), GEOG 439(3), PLSC/ STS 460(3), STS 201 GN(3)

General Option: Earth Science and Policy, B.S. at Commonwealth Campuses

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First Year

Fall	Credits Spring	Credits
ENGL 15, 30H, or ESL 15 (GWS) [‡]	3 MATH 111 or 141	4
ECON 102 [†]	3 Elective (2 cr needed if schedule MATH 111)	0
MATH 110, 83, or 140 (GQ) ^{*††}	4 CHEM 112	3
CHEM 110 (GN) [†]	3 CHEM 113	1
CHEM 111 [†]	1 PLSC 1 (GS) [†]	3
	General Education- Knowledge Domain	3
	14	14

Second Year

Fall	Credits Spring	Credits
PHYS 211 or 250 (GN) [†]	4 GEOSC 1 or 20	3
BIOL 114 (GN) [†]	3 STAT 200 (GQ) ^{††}	4
BIOL 115 (GN) [†]	1 PHIL 118, 133N, or METEO 133N (GH) [†]	3
GEOG 126 (GS) [†]	3 ENGL 202C ^{††1}	3
CAS 100, CAS 100A, CAS 100B, or CAS 100C ^{†1}	3 General Education- Health and Wellness (GHW)	1.5
General Education- Health and Wellness (GHW)	1.5	
	15.5	14.5

Third Year

Fall	Credits Spring	Credits
EARTH 402 [*]	3 EARTH 400	3
GEOSC 201, 202, 203, or 204 [*]	4 GEOSC 201, 202, 203, or 204 [*]	4
GEOG 364	3 Option elective	3
Option elective	3 Option elective	3
CED 201 or EBF 200	3 Option elective	3
	16	16

Fourth Year

Fall	Credits Spring	Credits
EARTH 495	3 Option elective	3
EBF 472, STAT 401, or GEOSC 210 [*]	3 Option elective	3
GEOSC 450 [*]	3 Option elective	3
Option elective	3 Option elective	3

General education- Knowledge domain	3 General Education- Knowledge domain	3
	15	15

Total Credits 120

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

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Course is an Entrance to Major requirement

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Advising notes:

General Option electives (27 credits): Must include one writing across the curriculum course

Select 3 credits from: EARTH 2 GN(3), EARTH 100 GN(3), EARTH 111 GN;US(3), EGEE 101 GN(3), GEOG 10 GN (3), GEOG 30N GN/GS(3), GEOG 160 GS(3), METEO 3 GN(3), METEO 4 GN(3), SOILS 101 GN(3)

Select 12 credits from: ERM 300(3), EGEE 302(3), EGEE 412(3), FOR 455(3), FOR 470(3), GEOG 310(3), GEOG 363(3), GEOG 412(3), GEOSC 320(3), GEOSC 340(3), GEOSC 402Y IL(3), GEOSC 409W(3), GEOSC 413W(3), GEOSC 451(3), GEOSC 452(3), GEOSC 454(3), GEOSC 483(3), METEO 466(3), SOILS 415(3), SOILS 422(3), SOILS 450(3)

Select a total of 12 credits from the following:

3 to 6 credits from: CED 429(3), CED 431(3), EBF 484(3), ECON 302 GS(3), GEOG 424 US;IL(3)

6 to 9 credits from: CED 230(3), CED 309(3), CED 409(3), CED 410(3), ERM 411(3), GEOG 430(3), GEOG 431(3), GEOG 434(3), GEOG 438(3), GEOG 439(3), EMSC/STS/SOC 420(3), PLSC 403(3), PLSC 412(3), PLSC 426(3), PLSC/STS 460(3), PLSC 471(3), PLSC 490(3), STS 201(3)

Water and Land Use Option: Earth Science and Policy, B.S. at Commonwealth Campuses

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First Year

Fall	Credits Spring	Credits
ENGL 15, 30H, or ESL 15 (GWS) [‡]	3 MATH 111 or 141	4
ECON 102 [†]	3 Elective (2 cr needed if schedule MATH 111)	0
MATH 110, 83, or 140 (GQ) ^{*††}	4 CHEM 112	3
CHEM 110 (GN) [†]	3 CHEM 113	1
CHEM 111 [†]	1 PLSC 1 (GS) [†]	3
	General Education- Knowledge Domain	3
	14	14

Second Year

Fall	Credits Spring	Credits
PHYS 211 or 250 (GN) [†]	4 GEOSC 1 or 20	3
BIOL 114 (GN) [†]	3 STAT 200 (GQ) ^{††}	4
BIOL 115 (GN) [†]	1 PHIL 118, 133N, or METEO 133N (GH) [†]	3
GEOG 126 (GS) [†]	3 ENGL 202C ^{††1}	3
CAS 100, CAS 100A, CAS 100B, or CAS 100C ^{†1}	3 General Education- Health and Wellness (GHW)	1.5
General Education- Health and Wellness (GHW)	1.5	
	15.5	14.5

Third Year

Fall	Credits Spring	Credits
EARTH 402 [*]	3 EARTH 400	3
GEOSC 201, 202, 203, or 204 [*]	4 GEOSC 201, 202, 203, or 204 [*]	4
GEOG 364	3 Option elective	3
Option elective	3 Option elective	3
CED 201 or EBF 200	3 Option elective	3
	16	16

Fourth Year

Fall	Credits Spring	Credits
EARTH 495	3 Option elective	3
EBF 472, STAT 401, or GEOSC 210 [*]	3 Option elective	3
GEOSC 450 [*]	3 Option elective	3
Option elective	3 Option elective	3

General education- Knowledge domain	3 General Education- Knowledge domain	3
	15	15

Total Credits 120

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

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

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

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Advising notes:

Water and Land Use Option electives (27 credits): Must include one writing across the curriculum course

Select 3 credits from: EARTH 111 GN;US(3), GEOG 160 GS(3), SOILS 101 GN(3)

Select 12 credits from: ERM 300(3), FOR 455(3), FOR 470(3), GEOG 363(3), GEOSC 340(3), GEOSC 402Y IL(3), GEOSC 409W(3), GEOSC 413W(3), GEOSC 452(3), GEOSC 483(3), SOILS 415(3), SOILS 422(3), SOILS 450(3)

Select a total of 12 credits from the following:

3 to 6 credits from: CED 429(3), CED 431(3), ECON 302 GS(3)

6 to 9 credits from: CED 309(3), CED 409(3), CED 410(3), GEOG 430(3), GEOG 431(3), GEOG 434(3), GEOG 439(3), PLSC/STS 460(3), PUBPL 481(3)

Climate Change Option: Earth Science and Policy, 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
ENGL 15, 30H, or ESL 15 (GWS) [‡]	3 MATH 111 or 141	4
ECON 102 [†]	3 Elective (2 cr needed if schedule MATH 111)	0
MATH 110, 83, or 140 (GQ) ^{*††}	4 CHEM 112	3
CHEM 110 (GN) [†]	3 CHEM 113	1
CHEM 111 [†]	1 PLSC 1 (GS) [†]	3
	General Education- Knowledge Domain	3
	14	14

Second Year

Fall	Credits Spring	Credits
PHYS 211 or 250 (GN) [†]	4 GEOSC 1 or 20	3
BIOL 114 (GN) [†]	3 STAT 200 (GQ) ^{††}	4
BIOL 115 (GN) [†]	1 PHIL 118, 133N, or METEO 133N (GH) [†]	3
GEOG 126 (GS) [†]	3 ENGL 202C ^{††1}	3
CAS 100, CAS 100A, CAS 100B, or CAS 100C ^{†1}	3 General Education- Health and Wellness (GHW)	1.5
General Education- Health and Wellness (GHW)	1.5	
	15.5	14.5

Third Year

Fall	Credits Spring	Credits
EARTH 402 [*]	3 EARTH 400	3
GEOSC 201, 202, 203, or 204 [*]	4 GEOSC 201, 202, 203, or 204 [*]	4
GEOG 364	3 Option elective [*]	3
Option elective	3 Option elective	3
CED 201 or EBF 200	3 Option elective	3
	16	16

Fourth Year

Fall	Credits Spring	Credits
EARTH 495	3 Option elective	3
EBF 472, STAT 401, or GEOSC 210 [*]	3 Option elective	3
GEOSC 450 [*]	3 Option elective	3
Option elective	3 Option elective	3

General education- Knowledge domain	3 General Education- Knowledge domain	3
	15	15

Total Credits 120

* 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.

¹ Students who begin their studies at non-UP locations and/or join the college after their first year should substitute CAS 100 (GWS), CAS 100A (GWS), CAS 100B (GWS), CAS 100C (GWS) or ENGL 202C (GWS) for EMSC 100S (GWS). EMSC 100S Earth and Mineral Sciences First year Seminar (3) is a required course only for students who begin their studies at UP in the College of Earth and Mineral Sciences.

Advising notes:

Climate Change Option electives (27 credits): Must include one writing across the curriculum course

Select 3 credits from: EARTH 2 GN(3), GEOG 110 GN(3), METEO 3 GN(3), METEO 4 GN(3)

Select 12 credits from: GEOG 310(3), GEOG 412(3), GEOSC 320(3), GEOSC/METEO 475(3), METEO 201(3), METEO 466(3)

Select a total of 12 credits from the following:

3 to 6 credits from: CED 429(3), CED 431(3), ECON 302(3)

6 to 9 credits from: CED 230(3), CED 410(3), EMSC/STS/SOC 420(3), GEOG 430(3), GEOG 434(3), GEOG 438W(3), PLSC/STS 460(3), STS 201(3)

Energy Option: Earth Science and Policy, 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
ENGL 15, 30H, or ESL 15 (GWS) [‡]	3 MATH 111 or 141	4
ECON 102 [†]	3 Elective (2 cr needed if schedule MATH 111)	0
MATH 110, 83, or 140 (GQ) ^{*††}	4 CHEM 112	3
CHEM 110 (GN) [†]	3 CHEM 113	1
CHEM 111 [†]	1 PLSC 1 (GS) [†]	3
	General Education- Knowledge Domain	3
	14	14

Second Year

Fall	Credits Spring	Credits
PHYS 211 or 250 (GN) [†]	4 GEOSC 1 or 20	3
BIOL 114 (GN) [†]	3 STAT 200 (GQ) ^{††}	4
BIOL 115 (GN) [†]	1 PHIL 118, 133N, or METEO 133N (GH) [†]	3
GEOG 126 (GS) [†]	3 ENGL 202C ^{††1}	3
CAS 100, CAS 100A, CAS 100B, or CAS 100C ^{†1}	3 General Education- Health and Wellness (GHW)	1.5
General Education- Health and Wellness (GHW)	1.5	
	15.5	14.5

Third Year

Fall	Credits Spring	Credits
EARTH 402 [*]	3 EARTH 400	3
GEOSC 201, 202, 203, or 204 [*]	4 GEOSC 201, 202, 203, or 204 [*]	4
GEOG 364	3 Option elective	3
Option elective	3 Option elective	3
CED 201 or EBF 200	3 Option elective	3
	16	16

Fourth Year

Fall	Credits Spring	Credits
EARTH 495	3 Option elective	3
EBF 472, STAT 401, or GEOSC 210 [*]	3 Option elective	3
GEOSC 450 [*]	3 Option elective	3
Option elective	3 Option elective	3
Option elective	3 General Education- Knowledge domain	3

General education- Knowledge domain	3
	18
	15

Total Credits 123

* 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.

¹ Students who begin their studies at non-UP locations and/or join the college after their first year should substitute CAS 100 (GWS), CAS 100A (GWS), CAS 100B (GWS), CAS 100C (GWS) or ENGL 202C (GWS) for EMSC 100S (GWS). EMSC 100S Earth and Mineral Sciences First year Seminar (3) is a required course only for students who begin their studies at UP in the College of Earth and Mineral Sciences.

Advising notes:

Energy Option electives (27 credits): Must include one writing across the curriculum course

Select 3 credits from: EARTH 100 GN(3), EGEE 101 GN(3), EGEE 102 GN(3)

Select 9 credits from: EGEE 302(3), EGEE 401(3), EGEE 412(3), GEOSC 451(3), GEOSC 454(3), GEOSC 483(3)

Select 3 credits from: EBF 484(3), GEOG 424 US;IL(3)

Select 12 credits from: CED 230(3), CED 410(3), EMSC/STS/SOC 420(3), GEOG 430(3), GEOG 434(3), GEOG 438W(3), GEOG 439(3), PLSC/ STS 460(3), STS 201 GN(3)