

ENVIRONMENTAL SYSTEMS ENGINEERING, B.S.

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*).

Environmental Systems Engineering Option: Environmental Systems Engineering, B.S. at University Park Campus

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First Year

Fall	Credits	Spring	Credits
MATH 140 or 140G (GQ) ^{*†#†}	4	MATH 141 or 141G (GQ) ^{*†#†}	4
CHEM 110 (GN) ^{*#†}	3	CHEM 112 (GN)	3
CHEM 111 [†]	1	PHYS 211 (GN) ^{*#†}	4
EMSC 100S (or CAS 100 by substitution) (GWS) ^{††1}	3	ENGL 15, 30H, or ESL 15 (GWS) ^{††}	3
GEOG 30N (GN/GS, US/IL) [†]	3		
	14		14

Second Year

Fall	Credits	Spring	Credits
PHYS 212 (GN) ^{*†#}	4	CHEM 202	3
EMCH 211	3	MATH 220 or 231	2
MATH 251 ^{*#}	4	EME 210, CMPSC 201, or CMPSC 203	3-4
GEOC 1 [*]	3	EMCH 212	3
General Education Knowledge Domain	3	MICRB 106	3
		General Education Knowledge Domain	3
	17		17-18

Third Year

Fall	Credits	Spring	Credits
EME 301 [*]	3	MNPR 301 [*]	3
EME 303 [*]	3	ENGL 202C (GWS) ^{*††}	3
GEOC 452	3	EGEE 470	3
CE 370 [*]	3	ENVSE 406	3
PNG 411	1	EME 460	3

MNG 401	1	ENVSE 412	1
General Education Knowledge Domain	3	General Education Health and Wellness (GHW) ²	1.5
	17		17.5

Fourth Year

Fall	Credits	Spring	Credits
ENVSE 404W (Writing across the curriculum)	3	ENVSE 480	3
ENVSE 427 [*]	3	ENVSE 470	3
ENVSE 450	3	Supporting course from approved department list ^{2,3}	3
Supporting Course from approved department list ^{2,3}	3	Additional course from approved list for option ³	3
Additional course from approved list for option ³	3	General Education Knowledge Domain	3
General Education Knowledge Domain	3	General Education Health and Wellness (GHW)	1.5
	18		16.5

Total Credits 131-132

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

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

Course is an Entrance to Major requirement

† Course satisfies General Education and degree requirement

University Requirements and General Education Notes:

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

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

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

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, CAS 100A, CAS 100B, or CAS 100C (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.

² Students who complete Basic ROTC may substitute 6 credits of ROTC for 3 credits of GHW courses and 3 credits of Supporting Courses and Related Areas.

³ At least 2 courses (total of 6 credits minimum) of a student's selections for additional courses and supporting courses must be engineering topics courses. These courses should be selected in consultation with an ENVSE faculty adviser. Possible additional courses for the option include: ENVSE 408, SOILS 401, METEO 455, METEO 454, MN PR 401, MN PR 426

Advising Notes:

To enter the major, students need a minimum 2.00 grade point average, third semester standing, and a C or better grade in MATH 140, MATH 141, MATH 251, CHEM 110, PHYS 211, and PHYS 212.

Courses required for the major may be offered fall semester only, spring semester only, or both fall and spring semesters. Consult with your adviser and department to discuss your academic progress and course sequencing.

Environmental Systems Engineering Option: Environmental Systems Engineering, B.S. at Commonwealth Campuses

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First Year

Fall	Credits Spring	Credits
MATH 140 (GQ) ^{*†#†}	4 MATH 141 (GQ) ^{*†#†}	4
CHEM 110 (GN) ^{*#†}	3 CHEM 112 (GN)	3
CHEM 111 [†]	1 PHYS 211 (GN) ^{*#†}	4
ENGL 15, 30H, or ESL 15 (GWS) ^{††}	3 General Education Knowledge Domain	3
General Education Knowledge Domain	3 General Education Health and Wellness (GHW)	1.5
	14	15.5

Second Year

Fall	Credits Spring	Credits
PHYS 212 (GN) ^{*†#}	4 CHEM 202	3
EMCH 211	3 MATH 220 or 231	2
MATH 251 ^{*#}	4 EME 210, CMPSC 201, or CMPSC 203	3-4
CAS 100, CAS 100A, CAS 100B, or CAS 100C (GWS) ^{††1}	3 EMCH 212	3
General Education Knowledge Domain	3 ENGL 202C (GWS) ^{††}	3
	General Education Knowledge Domain	3
	17	17-18

Third Year

Fall	Credits Spring	Credits
EME 301 [*]	3 MNPR 301 [*]	3
EME 303 [*]	3 CE 370 [*]	3
MICRB 106	3 EGEE 470	3
GEOG 30N (GN/GS, US/IL) [†]	3 ENVSE 406	3
PNG 411	1 EME 460	3
GEOSC 1 [*]	3 ENVSE 412	1
MNG 401	1	
	17	16

Fourth Year

Fall	Credits Spring	Credits
ENVSE 404W (Writing across the curriculum)	3 ENVSE 480	3
ENVSE 427 [*]	3 ENVSE 470	3
ENVSE 450	3 Supporting course from approved department list ^{2,3}	3
GEOSC 452	3 Additional course from approved list for option ³	3
Supporting Course from approved department list ^{2,3}	3 General Education Knowledge Domain	3

Additional course from approved list for option ³	3 General Education Health and Wellness (GHW)	1.5
	18	16.5

Total Credits 131-132

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Environmental Health and Safety Option: Environmental Systems Engineering, B.S. at University Park Campus

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Fall	Credits	Spring	Credits
MATH 140 or 140G (GQ) ^{*†#†}	4	MATH 141 or 141G (GQ) ^{*†#†}	4
CHEM 110 (GN) ^{*#†}	3	CHEM 112 (GN)	3
CHEM 111 [†]	1	PHYS 211 (GN) ^{*#†}	4
EMSC 100S (or CAS 100 by substitution) (GWS) ^{††1}	3	ENGL 15, 30H, or ESL 15 (GWS) ^{††}	3
PSYCH 100 (GS) [†]	3		
	14		14

Second Year

Fall	Credits	Spring	Credits
PHYS 212 (GN) ^{*#}	4	CHEM 202	3
EMCH 211	3	MATH 220 or 231	2
MATH 251 ^{*#}	4	EME 210, CMPSC 201, or CMPSC 203	3-4
GEOC 1 [*]	3	EMCH 212	3
General Education Knowledge Domain	3	BIOL 141	3
		General Education Knowledge Domain	3
	17		17-18

Third Year

Fall	Credits	Spring	Credits
EME 301 [*]	3	MNPR 301 [*]	3
EME 303 [*]	3	ENGL 202C (GWS) ^{*††}	3
GEOC 452	3	EME 460	3
CE 370 [*]	3	ENVSE 406	3
ENVSE 400	3	ENVSE 440	3
General Education Knowledge Domain	3	General Education Health and Wellness (GHW) ²	1.5
	18		16.5

Fourth Year

Fall	Credits	Spring	Credits
ENVSE 404W (Writing across the curriculum)	3	ENVSE 457	3
ENVSE 427 [*]	3	ENVSE 458	1
ENVSE 450	3	ENVSE 470	3
PNG 411	1	ENVSE 480	3
MNG 401	1	Supporting course from approved department list ²	3
Supporting course from approved department list ²	3	General Education Knowledge Domain	3

General Education Knowledge Domain	3	General Education Health and Wellness (GHW) ²	1.5
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ENGL 15 (GWS) ^{††}	3	General Education Knowledge Domain	3
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		BIOL 141	3
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EME 303 [*]	3	GEOSC 452	3
CE 370 [*]	3	ENVSE 406	3
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MNG 401	1	Supporting course from approved department list ²	3
General Education Health and Wellness (GHW) ²	1.5	General Education Knowledge Domain	3

Supporting course from approved department list² 3

15.5

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