

COMPUTER SCIENCE, B.S. (ENGINEERING)

Begin Campus: Any Penn State Campus

End Campus: Beaver, Brandywine, Hazleton, 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*).

Computer 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.

If you are starting at a campus other than the one this plan is ending at, please refer to: <https://advising.engr.psu.edu/degree-requirements/academic-plans-by-major.aspx>

First Year

Fall	Credits Spring	Credits
CMPSC 121 or 131 ^{*†#}	3 CMPSC 122 or 132 ^{*#}	3
MATH 140 (GQ) ^{*†#†}	4 MATH 141 (GQ) ^{*†#†}	4
ENGL 15 (GWS) [†]	3 PHYS 211 (GN, PHYSICS 211L & PHYSICS 211R) ^{*#†}	4
General Education Course	3 General Education Course	3
General Education Course	3 First Year Seminar	1
	16	15

Second Year

Fall	Credits Spring	Credits
CMPSC 221 [*]	3 CMPSC 360 [*]	3
MATH 230	4 CMPEN 270 [*]	4
MATH 220	2-3 CMPSC 311 [*]	3
PHYS 212 (GN, PHYSICS 212L & PHYSICS 212R) ^{**†}	4 Natural Science Elective (GN, See College Note below for options that DO NOT count)	2-3
CAS 100A or 100B (GWS) ^{††}	3 General Education Course	3
	16-17	15-16

Third Year

Fall	Credits Spring	Credits
CMPSC 465 [*]	3 CMPSC 464	3
CMPEN 331 [*]	3 CMPSC 473 [*]	3
STAT 318	3 STAT 319	3
CMPSC 461 [*]	3 ENGL 202C (GWS) ^{††}	3

Foreign Language	4 General Education Course	3
	16	15

Fourth Year

Fall	Credits Spring	Credits
CMPSC 483W or 431W	3 CMPSC/CMPEN 400-level ²	3
CMPSC Elective ¹	3 CMPSC Elective ¹	3
Supporting Course	3 Supporting Course	3
Department List (General Elective)	3 General Education Course	3
Department List (General Elective)	4 Department List (General Elective)	3
General Education Course (GHW)	1.5 General Education Course (GHW)	1.5
	17.5	16.5

Total Credits 127-129

- * 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

¹ Select from department list. Restrictions may apply. Computer Science Electives are NOT offered every semester or even every year. Contact the department for information on which classes are scheduled to be offered during a given semester.

² Select 3 credits from any 400-489 CMPSC or CMPEN course that does not duplicate material already taken or required. No CMPSC/CMPEN 494H or CMPSC/CMPEN 496 may be substituted. CMPSC/CMPEN 497 must be petitioned prior to taking the course.

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.

College Notes:

- **NATURAL SCIENCES ELECTIVE:** Choose any GN-designated course EXCEPT the following: ASTRO 1, 7N, 10, 11, 120, or 140; all below

CHEM 110 (except 3 credits of CHEM 106); all below PHYS 211; PHYS 250 or 251; all BI SC; and GEOSC 20.

- **CMPSC/CMPEN 4XX:** Select any 400-489 CMPSC or CMPEN course offered at University Park.
- **Computer Science Elective:** Select from department list. Restrictions may apply. Computer Science Electives are NOT offered every semester or even every year. Contact the department for information on which classes are scheduled to be offered during a given semester.
- **Department List Elective:** Select from department list. Restrictions may apply. Students who complete the ROTC Program may substitute 3 ROTC credits for a Department List Elective. Students who complete the Cooperative Education Program may substitute 3 co-op credits for a Department List Elective.
- **Health and Wellness:** Students who complete the ROTC Program may substitute 3 ROTC credits for the GHW requirement and 3 ROTC credits for a Department List Elective.
- **Supporting Course:** Select from department list. Restrictions may apply.

Computer Science, B.S. at Beaver 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
CMPSC 121 or 131 ^{*†‡}	3 CMPSC 122 or 132 ^{*#}	3
MATH 140 ^{*†‡†}	4 MATH 141 ^{*†‡†}	4
ENGL 15 (GWS) ^{††}	3 PHYS 211 (GN, PHYSICS 211L & PHYSICS 211R) ^{*#†}	4
General Education Course	3 General Education Course	3
First-Year Seminar	1 General Education Course	3
	14	17

Second Year

Fall	Credits Spring	Credits
CMPSC 221 [*]	3 CMPSC 360 [*]	3
MATH 230	4 CMPEN 270 [*]	4
MATH 220	3 CMPSC 311 [*]	3
PHYS 212 (GN, PHYSICS 212L & PHYSICS 212R) ^{††}	4 Natural Science Elective (GN, See College Note below for options that DO NOT count)	3
CAS 100A (GWS) ^{††}	3 General Education Course	3
	17	16

Third Year

Fall	Credits Spring	Credits
CMPSC 465 [*]	3 CMPSC 464	3
CMPEN 331 [*]	3 CMPSC 473 [*]	3
STAT 318	3 STAT 319	3
CMPSC 461 [*]	3 ENGL 202C (GWS) ^{††}	3
Foreign Language	4 General Education Course	3
	16	15

Fourth Year

Fall	Credits Spring	Credits
CMPSC 483W or 431W	3 CMPSC Elective ²	3
CMPSC Elective ¹	3 CMPSC Elective ¹	3
Supporting Course	3 Supporting Course	3
Department List (General Elective)	3 Department List (General Elective)	3
Department List (General Elective)	4 General Education Course (GHW)	1.5
General Education Course (GHW)	1.5 General Education Course	3
	17.5	16.5

Total Credits 129

* 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

¹ Select from department list. Restrictions may apply. Computer Science Electives are NOT offered every semester or even every year. Contact the department for information on which classes are scheduled to be offered during a given semester.

² Select 3 credits from any 400-489 CMPSC or CMPEN course that does not duplicate material already taken or required. No CMPSC/CMPEN 494H or CMPSC/CMPEN 496 may be substituted. CMPSC/CMPEN 497 must be petitioned prior to taking the course.

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.

Program Notes:

- **NATURAL SCIENCES ELECTIVE:** Choose any GN-designated course EXCEPT the following: ASTRO 1, 7N, 10, 11, 120, or 140; all below CHEM 110 (except 3 credits of CHEM 106); all below PHYS 211; PHYS 250 or 251; all BI SC; and GEOSC 20.
- **CMPSC/CMPEN 4XX:** Select any 400-489 CMPSC or CMPEN course offered at University Park.
- **Computer Science Elective:** Select from department list. Restrictions may apply. Computer Science Electives are NOT offered every semester or even every year. Contact the department for information on which classes are scheduled to be offered during a given semester.
- **Department List Elective:** Select from department list. Restrictions may apply. Students who complete the ROTC Program may substitute 3 ROTC credits for a Department List Elective. Students who complete the Cooperative Education Program may substitute 3 co-op credits for a Department List Elective.
- **Health and Wellness:** Students who complete the ROTC Program may substitute 3 ROTC credits for the GHW requirement and 3 ROTC credits for a Department List Elective.
- **Supporting Course:** Select from department list. Restrictions may apply.

Computer Science, B.S. at Brandywine 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
CMPSC 121 or 131 ^{*†‡}	3	CMPSC 122 or 132 ^{*#}	3
MATH 140 (GQ) ^{*†‡†}	4	MATH 141 (GQ) ^{*†‡†}	4
ENGL 15 (GWS) [†]	3	PHYS 211 (GN, PHYSICS 211L & PHYSICS 211R) ^{*#†}	4
General Education Course	3	General Education Course	3
General Education Course	3	First Year Seminar	1
16		15	

Second Year

Fall	Credits	Spring	Credits
CMPSC 221 [*]	3	CMPSC 360 [*]	3
MATH 230	4	CMPEN 270 [*]	4
MATH 220	2-3	CMPSC 311 [*]	3
PHYS 212 (GN, PHYSICS 212L & PHYSICS 212R) ^{*†}	4	Natural Science Elective (GN, See College Note below for options that DO NOT count)	2-3
CAS 100A or 100B (GWS) ^{††}	3	General Education Course	3
16-17		15-16	

Third Year

Fall	Credits	Spring	Credits
CMPSC 465 [*]	3	CMPSC 464	3
CMPEN 331 [*]	3	CMPSC 473 [*]	3
STAT 318	3	STAT 319	3
CMPSC 461 [*]	3	ENGL 202C (GWS) ^{††}	3
Foreign Language	4	General Education Course	3
16		15	

Fourth Year

Fall	Credits	Spring	Credits
CMPSC 483W or 431W	3	CMPSC/CMPEN 400-level ²	3
CMPSC Elective ¹	3	CMPSC Elective ¹	3
Supporting Course	3	Supporting Course	3
Department List (General Elective)	3	General Education Course	3
Department List (General Elective)	4	Department List (General Elective)	3
General Education Course (GHW)	1.5	General Education Course (GHW)	1.5
17.5		16.5	

Total Credits 127-129

* 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

¹ Select from department list. Restrictions may apply. Computer Science Electives are NOT offered every semester or even every year. Contact the department for information on which classes are scheduled to be offered during a given semester.

² Select 3 credits from any 400-489 CMPSC or CMPEN course that does not duplicate material already taken or required. No CMPSC/CMPEN 494H or CMPSC/CMPEN 496 may be substituted. CMPSC/CMPEN 497 must be petitioned prior to taking the course.

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.

College Notes:

- **NATURAL SCIENCES ELECTIVE:** Choose any GN-designated course EXCEPT the following: ASTRO 1, 7N, 10, 11, 120, or 140; all below CHEM 110 (except 3 credits of CHEM 106); all below PHYS 211; PHYS 250 or 251; all BI SC; and GEOSC 20.
- **CMPSC/CMPEN 4XX:** Select any 400-489 CMPSC or CMPEN course offered at University Park.
- **Computer Science Elective:** Select from department list. Restrictions may apply. Computer Science Electives are NOT offered every semester or even every year. Contact the department for information on which classes are scheduled to be offered during a given semester.
- **Department List Elective:** Select from department list. Restrictions may apply. Students who complete the ROTC Program may substitute 3 ROTC credits for a Department List Elective. Students who complete the Cooperative Education Program may substitute 3 co-op credits for a Department List Elective.
- **Health and Wellness:** Students who complete the ROTC Program may substitute 3 ROTC credits for the GHW requirement and 3 ROTC credits for a Department List Elective.
- **Supporting Course:** Select from department list. Restrictions may apply.

Computer Science, B.S. at Hazleton 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
ENGL 15 or 30H ^{††}	3 CAS 100 ^{††}	3
CMPSC 131 ^{*#}	3 MATH 141 ^{*#†}	4
MATH 140 ^{*#†}	4 PHYS 211 ^{*#†}	4
PSU 8 [†]	1 General Education Course [†]	3
General Education Course [†]	3 General Education Course [†]	3
General Education Course (GN) [†]	3	
	17	17

Second Year

Fall	Credits Spring	Credits
CMPSC 132 ^{*#}	3 CMPSC 221 [*]	3
CMPEN 271 [*]	3 CMPEN 275 [*]	1
MATH 220	3 CMPSC 360 [*]	3
PHYS 212 ^{*†}	4 MATH 230	4
Foreign Language	4 ENGL 202C ^{††}	3
	General Education Course (GHW) [†]	1.5
	17	15.5

Third Year

Fall	Credits Spring	Credits
CMPEN 331 [*]	3 CMPSC 473 [*]	3
CMPSC 465 [*]	3 CMPSC Elective	3
Supporting Course	3 Department List Elective	3
CMPSC 311 [*]	3 General Education Course [†]	3
General Education Course (GHW) [†]	1.5 General Education Course [†]	3
Department List Elective	3	
	16.5	15

Fourth Year

Fall	Credits Spring	Credits
CMPSC 431W or 483W	3 CMPSC 461 [*]	3
CMPSC 464	3 CMPEN/CMPSC 4XX	3
STAT 318	3 CMPSC Elective	3
Department List Elective	4 STAT 319	3
General Education Course [†]	3 Supporting Course	3
	16	15

Total Credits 129

* 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.

Program Notes:

- **NATURAL SCIENCES ELECTIVE:** Choose any GN-designated course EXCEPT the following- ASTRO 1, 7N, 10, 11, 120, or 140; all below CHEM 110 (except 3 credits of CHEM 106); all below PHYS 211; PHYS 250 or 251; all BI SC; and GEOSC 20.
- **CMPSC/CMPEN 4XX:** Select any 400-489 CMPSC or CMPEN course.
- **Computer Science Elective:** Select from department list. Restrictions may apply. Computer Science Electives are NOT offered every semester or even every year. Contact the department for information on which classes are scheduled to be offered during a given semester.
- **Department List Elective:** Select from department list. Restrictions may apply. Students who complete the ROTC Program may substitute 3 ROTC credits for a Department List Elective. Students who complete the Cooperative Education Program may substitute 3 co-op credits for a Department List Elective.
- **Health and Wellness:** Students who complete the ROTC Program may substitute 3 ROTC credits for the GHW requirement and 3 ROTC credits for a Department List Elective.
- **Supporting Course:** Select from department list. Restrictions may apply.