

SOFTWARE ENGINEERING, B.S.

Begin Campus: Any Penn State Campus

End Campus: Erie, World Campus

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*).

Software Engineering, B.S. at Erie 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
CHEM 110 ^{*#†}	3 CMPSC 122 [*]	3
CHEM 111 [†]	1 ECON 102 or 104 [†]	3
CMPSC 121 [†]	3 MATH 141 ^{*†##}	4
ENGL 15 or 30H ^{††}	3 MATH 220 [†]	2
MATH 140 ^{*†##}	4 PHYS 211 ^{*#†}	4
PSU 7	1	
	15	16

Second Year

Fall	Credits Spring	Credits
CAS 100 ^{††}	CMPEN 271 [*]	3
MATH 250	3 CMPEN 275	1
PHYS 212 [†]	4 CMPSC 360 or SWENG 311 [*]	3
	2	
SWENG 311 or CMPSC 360 ^{*2}	3 EE 210 or 211	3-4
General Education Course (GA/GH/GS)	3 ENGL 202C ^{*††}	3
	STAT 318 [*]	3
	13	16-17

Third Year

Fall	Credits Spring	Credits
CMPEN 351 [*]	3 CMPSC 431W ^{*1}	3
CMPEN 441 [*]	3 SWENG 421 [*]	3
CMPSC 465 [*]	3 SWENG 431 [*]	3
SWENG 411 [*]	3 SWENG 452W ^{*1}	3
Technical Elective (300, 400-level) [*]	3 General Education Course	3

General Education Courses (GHW)	1.5	
	16.5	15
Fourth Year		
Fall	Credits Spring	Credits
CMPEN 461 [*]	3 MGMT 301 [*]	3
CMPSC 461 [*]	3 SWENG 481 [*]	3
SWENG 480 [*]	3 Technical Elective (300, 400-level) [*]	3
Technical Elective (300, 400-level) [*]	3 General Education Course (GA/GH/GS)	3
General Education Course (GA/GH/GS)	3 General Education Course (GA/GH/GS)	3
General Education Course (GHW)	1.5	
	16.5	15

Total Credits 123-124

- * 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

- ¹ Course will satisfy Writing Across the Curriculum requirement.
- ² CMPEN 271, CMPEN 275, and CMPSC 360 must be completed prior to the third-year to ensure that fall semester third-year prerequisites are met.

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.

Program Notes:

- Only students who have gone through the entrance to major (ETM) process and have been accepted into this major may register for third- and fourth-year courses.

School-Approved Electives for Software Engineering:

- Technical electives allow students to choose areas of interest to explore. Technical electives come in two flavors, primary and secondary. Primary technical electives are those courses offered to CSSE majors which are not required for the Software Engineering major. Secondary technical electives are offered outside your home department and give you broader latitude. Students must complete

at least two primary technical electives, and, at most, one secondary technical elective.

• **Primary Technical Electives:**

- Any 300 or 400-level EE course
- Any 300 or 400-level CMPEN course not already required for the major
- Any 300 or 400-level CMPSC (except for CMPSC 474 and CMPSC 335) course not already required for the major
- Any 300 or 400-level SWENG course not already required for the major
- GAME 450 – Advanced GAME Programming
- GAME 480 – GAME Development Project

• **Secondary Technical Electives:**

- SWENG 395 – Internship (Fall/Spring)
- SWENG 495 – Internship (Fall/Spring)
- MIS 430 – Systems Analysis (Fall/Spring)
- MIS 435 – Systems Design and Implementation (Fall/Spring)
- MIS 445 – Management Report Systems (Fall)
- MIS 470 – Advanced Applications Development (Spring)
- MGMT 409 – Project Management for Engineers (Fall/Spring)
- PSYCH 444 – Engineering Psychology (Fall)
- ECON 481 – Business Forecasting Techniques (Fall)
- ECON 485 – Econometric Techniques (Fall)
- MATH 455 – Introduction to Numerical Analysis I (Fall)
- MATH 456 – Introduction to Numerical Analysis II (Spring – Even Years)
- ENTR 430 – Entrepreneurship & New Product Development (Fall)

Software Engineering, B.S. at World 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
CHEM 110 ^{*#†}	3 CMPSC 122 [*]	3
CHEM 111 [†]	1 ECON 102 or 104 [†]	3
CMPSC 121 [†]	3 MATH 141 ^{*#†}	4
ENGL 15 or 30H ^{††}	3 MATH 220 [†]	2
MATH 140 ^{*#†}	4 PHYS 211 ^{*#†}	4
PSU 7	1	
	15	16

Second Year

Fall	Credits Spring	Credits
CAS 100 ^{††}	CMPEN 271 [*]	3
MATH 250	3 CMPEN 275	1
PHYS 212 [†]	4 CMPSC 360 or SWENG 311 [*]	3
SWENG 311 or CMPSC 360 ^{*2}	3 EE 210 or 211	3-4
General Education Course (GA/GH/GS)	3 ENGL 202C ^{*††}	3
	STAT 318 [*]	3
	13	16-17

Third Year

Fall	Credits Spring	Credits
CMPEN 351 [*]	3 CMPSC 431W ^{*1}	3
CMPEN 441 [*]	3 SWENG 421 [*]	3
CMPSC 465 [*]	3 SWENG 431 [*]	3
SWENG 411 [*]	3 SWENG 452W ^{*1}	3
Technical Elective (300, 400-level) [*]	3 General Education Course (GA/GH/GS)	3
General Education Courses (GHW)	1.5	
	16.5	15

Fourth Year

Fall	Credits Spring	Credits
CMPEN 461 [*]	3 MGMT 301 [*]	3
CMPSC 461 [*]	3 SWENG 481 [*]	3
SWENG 480 [*]	3 Technical Elective (300, 400-level) [*]	3
Technical Elective (300, 400-level) [*]	3 General Education Course (GA/GH/GS)	3
General Education Course (GA/GH/GS)	3 General Education Course (GA/GH/GS)	3
General Education Course (GHW)	1.5	
	16.5	15

Total Credits 123-124

* 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

¹ Course will satisfy Writing Across the Curriculum requirement.

² CMPEN 271, CMPEN 275, and CMPSC 360 must be completed prior to the third-year to ensure that fall semester third-year prerequisites are met.

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.

Program Notes:

- Only students who have gone through the entrance to major (ETM) process and have been accepted into this major may register for junior and senior-level courses.

School-Approved Electives for Software Engineering:

Students should contact their academic adviser or World Campus Academic Advising for list of electives.