

**SOFTWARE ENGINEERING (SE BD)**  
**Recommended Action Plan (RAP)**  
**Bachelor of Science Degree**  
**127 credits**

Fall Semester Freshman Year – 15 credits		Credits	Spring Semester Freshman Year – 16 credits		Credits
<b>MATH 140</b>	<b>Calculus I (GQ)</b>	4	<b>MATH 141</b>	<b>Calculus II (GQ)</b>	4
<b>CHEM 110</b>	<b>Chemical Principles I (GN)</b>	3	<b>PHYS 211</b>	<b>Physics: Mechanics (GN)</b>	4
CHEM 111	Experimental Chemistry I (GN)	1	<b>CMPSC 122</b>	<b>Intermediate Programming</b>	<b>3</b>
ENGL 015	Rhetoric and Comp (GWS)	3	MATH 220	Matrices (GQ)	2
CMPSC 121	Intro Programming (GQ)	3	ECON 2 or 4	Micro or Macro Econ (GS)	3
PSU 007	First-Year Seminar (FYS)	1			
Fall Semester Sophomore Year – 16 credits		Credits	Spring Semester Sophomore Year – 16 credits		Credits
<b>SWENG 311</b>	<b>Object Oriented Design</b>	3	<b>CMPSC 360</b>	<b>Discrete Mathematics</b>	3
MATH 250	Differential Equations	3	<b>CMPEN 271<sup>1</sup></b>	<b>Intro to Digital Systems</b>	3
CAS 100	Effective Speech (GWS)	3	<b>CMPEN 275<sup>1</sup></b>	<b>Digital Design Lab</b>	1
PHYS 212	Physics: Elec & Magnet (GN)	4	E E 210/211	Circ & Dev or Cir & Pwr Dist	3
GA, GH, or GS, From General Education List		3	<b>MIS 336</b>	<b>Database Mgmt Systems</b>	3
			ENGL 202C	Technical Writing (GWS)	3
Fall Semester Junior Year – 16.5 credits		Credits	Spring Semester Junior Year – 15 credits		Credits
<b>CMPEN 351</b>	<b>Microprocessors</b>	3	<b>SWENG 452W</b>	<b>Embedded Real Time Sys (GWS)</b>	3
<b>SWENG 411</b>	<b>Software Engr. Principles</b>	3	<b>SWENG 431</b>	<b>Software Verify &amp; Testing</b>	3
<b>CMPEN 441</b>	<b>Operating Systems</b>	3	<b>CMPSC 465</b>	<b>Data Structure &amp; Algorithms</b>	3
<b>STAT 301</b>	<b>Statistical Analysis I</b>	3	<b>SWENG 421</b>	<b>Software Architecture</b>	3
GA, GH, or GS, From General Education List		3	<b>Tech Elective, Program List (300/400 Level)</b>		3
BB H/KINES, From University List (GHA)		1.5			
Fall Semester Senior Year – 16.5 credits		Credits	Spring Semester Senior Year – 15 credits		Credits
<b>CMPEN 461</b>	<b>Data Communications</b>	3	<b>MGMT 301</b>	<b>Behave Concept of Mgmt</b>	
<b>CMPSC 461</b>	<b>Fund of Program Language</b>	3	<b>SWENG 481</b>	<b>Software Design Project</b>	3
<b>SWENG 480</b>	<b>Senior Software Seminar</b>	3	<b>Tech Elective, Program List (300/400 Level)</b>		3
<b>Tech Elective, From Program List</b>		3	GA, GH, or GS, From General Education List		3
GA, GH, or GS, From General Education List		3	GA, GH, or GS, From General Education List		3
BB H/KINES, From University List (GHA)		1.5			

**Notes:**

- **Bold type** indicates courses requiring a quality grade of C or better.
- *Italic* indicates courses that satisfy both major and General Education requirements.
- **Bold italics** indicates courses requiring a quality grade of C or better and that satisfy both major and General Education requirements.
- GWS, GHA, GQ, GN, GA, GH, and GS are codes used to identify General Education requirements.
- W is the code used to designate courses that satisfy University Writing Across the Curriculum requirements.
- If you have not completed two years of high school study of one foreign language and graduated in the year 2001 or later, you must also schedule 3-4 credits of college level foreign language (in addition to your program requirements).
- An SE BD student must complete general education requirements, the requirements for the major, the number of elective credits required, and earn at least a minimum 2.00 grade-point average.
- General education requirements include 6 credits of arts (GA), 6 credits of humanities (GH), 6 credits of social and behavioral sciences (GS), 3 credits of health and physical activity (GHA), 9 credits of natural sciences (GN), 9 credits of writing/speaking (GWS), and 6 credits of quantification (GQ).
- Also required are 3 credits of United States cultures (US), 3 credits of International Cultures (IL) which can be used to satisfy part of the general education requirements. A (USI) may count for either category, but not both.
- The School of Engineering Advising Handbook is on-line at:  
<http://www.behrend.psu.edu/academic/engineering/PDFS/SchoolHandbook.pdf>.
- University Undergraduate Advising Handbook is on-line at <http://www.psu.edu/dus/handbook/>.
- Requirement Web page <http://www.psu.edu/advising/requirements.htm>.
- Blue Book Web site <http://www.psu.edu/bulletins/bluebook/>.
- <sup>1</sup> CMPEN 271, and CMPEN 275 must be completed prior to the junior year to ensure that fall semester junior year prerequisites are met.