

**COMPUTER ENGINEERING (CENBD)**  
**Recommended Action Plan (RAP)**  
**Bachelor of Science Degree**  
**129 credits**

Fall Semester Freshman Year – 15 credits		Credits	Spring Semester Freshman Year – 17 credits		Credits
<b>MATH 140</b>	<b><i>Calculus I (GQ)</i></b>	4	<b>MATH 141</b>	<b><i>Calculus II (GQ)</i></b>	4
<b>CHEM 110</b>	<b><i>Chemical Principles I (GN)</i></b>	3	<b>PHYS 211</b>	<b><i>Physics: Mechanics (GN)</i></b>	4
<b>CHEM 111</b>	<b><i>Experimental Chemistry I (GN)</i></b>	1	<b>CMPSC 122</b>	<b>Intermediate Programming</b>	<b>3</b>
ENGL 015	<i>Rhetoric and Comp (GWS)</i>	3	ECON 2 or 4	<i>Microec or Macroec Anly (GS)</i>	3
CMPSC 121	<i>Intro Programming (GQ)</i>	3	<i>GA, GH, or GS, From General Education List</i>		3
PSU 007	<i>First-Year Seminar (FYS)</i>	1			
Fall Semester Sophomore Year – 17.5 credits		Credits	Spring Semester Sophomore Year – 16 credits		Credits
<b>MATH 250</b>	<b>Differential Equations</b>	3	<b>E E 210<sup>1</sup></b>	<b>Circuits &amp; Devices</b>	4
<b>CMPEN 271<sup>1</sup></b>	<b>Intro to Digital Systems</b>	3	<b>CMPSC 360</b>	<b>Discrete Mathematics</b>	3
<b>CMPEN 275<sup>1</sup></b>	<b>Digital Design Lab</b>	1	<b>MATH 230</b>	<b>Calculus &amp; Vector Analysis</b>	4
<b>MATH 220</b>	<b><i>Matrices (GQ)</i></b>	2	ENGL 202C	<i>Technical Writing (GWS)</i>	3
PHYS 212	<i>Physics: Elec &amp; Magnet (GN)</i>	4	PHYS 214	<i>Physics: Wave Motion/Quantum (GN)</i>	2
CAS 100	<i>Effective Speech (GWS)</i>	3			
<i>BB H/KINES, From University List (GHA)</i>		1.5			
Fall Semester Junior Year – 16 credits		Credits	Spring Semester Junior Year – 16 credits		Credits
<b>CMPSC 465</b>	<b>Data Structures/Algorithms</b>	3	<b>E E 352</b>	<b>Signals &amp; Systems</b>	4
<b>CMPEN 371</b>	<b>Advanced Digital Design</b>	3	<b>CMPEN 411</b>	<b>VLSI Design Circuits</b>	<b>3</b>
<b>E E 310</b>	<b>Electronic Circuit Design</b>	4	<b>CMPEN 352W</b>	<b>Embedded Systems Design</b>	3
<b>CMPEN 351</b>	<b>Microprocessors</b>	3	<b>CMPEN 431</b>	<b>Intro Computer Architecture</b>	3
<b>STAT 301</b>	<b>Statistical Analysis I</b>	3	<i>GA, GH, or GS, From General Education List</i>		3
Fall Semester Senior Year – 15 credits		Credits	Spring Semester Senior Year – 16.5 credits		Credits
<b>CMPEN 480</b>	<b>Computer Engr Design</b>	3	<b>CMPEN 481</b>	<b>Computer Engr Projects</b>	3
<b>CMPEN 461</b>	<b>Communications Network</b>	3	<b>Tech Elective, From Program List</b>		3
<b>CMPEN 441</b>	<b>Operating Systems</b>	3	<b>Tech Elective, From Program List</b>		3
<b>Tech Elective, From Program List</b>		3	<i>GA, GH, or GS, From General Education List</i>		3
<i>GA, GH, or GS, From General Education List</i>		3	<i>GA, GH, or GS, From General Education List</i>		3
			<i>BB H/KINES, From University List (GHA)</i>		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).
- A CENBD 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>E E 210, CMPEN 271 and CMPEN 275 must be completed prior to the junior year to ensure that fall semester junior year prerequisites are met.