

# Bachelor of Science in Computer Engineering

## Degree Map & Planning Information

### Admissions Information

This program is a capacity-constrained major. You must complete the prerequisite courses below and then submit an application to be considered for the major. Applications for Computer Engineering may only be submitted at the April 1 or June 1 deadlines for Autumn admission.

**Prerequisites for current UW Bothell students:** Prerequisites must be completed prior to application submission for the April 1 application, but final prerequisites may be in progress for the June 1 application. A minimum grade of 2.0 is required for each prerequisite course; however, students admitted to the major typically have grades that exceed the minimum.

- UW Bothell's BWRIT 134 or an equivalent composition course
- UW Bothell's STMATH 124, 125, and 126 (Calculus I, II, III) or an equivalent calculus sequence
- Computer Programming I and II
  - Preferred: UW Bothell's CSS 142 and 143 or equivalent Java programming course sequence
  - Also accepted: UW Bothell's CSS 132 and 133 or equivalent C++ programming course sequence
  - Skills labs are required (CSSSKL 142 and 143 or 132 and 133) if these courses are taken at UW Bothell.
  - Both programming courses must be taught using the same programming language
- UW Bothell's BPHYS 121 and 122 or equivalent calculus-based Physics I and II

## Curriculum Information

### General Education

To be eligible for graduation from the University, with the baccalaureate degree, a student must complete a minimum of 180 academic credits and satisfy all other specific requirements. The University of Washington Bothell has established minimum general education requirements for baccalaureate degrees. These minimum requirements are met by selecting courses designated to fulfill these categories; you can find the designation (e.g., SSc) in MyPlan by clicking on the course name and looking under "Course Overview:"

- English Composition – 5 credits
  - typically fulfilled by BWRIT 134 or equivalent; grade of 2.0 or higher is required
- Additional Writing – 10 credits
  - 5 credits typically fulfilled by BWRIT 135 or equivalent
  - 5 credits fulfilled by CSS 301
- Reasoning (RSN) – 5 credits
  - typically fulfilled by STMATH 124 or STMATH 390

- Natural Sciences (NSc) – 15 credits
  - typically fulfilled by the Calculus series and Computer Programming I and II
- Arts and Humanities (A&H) – 15 credits
- Social Sciences (SSc) – 15 credits
- Diversity (DIV) – 5 credits
  - (Find one that fulfills DIV **and** another gen ed, such as SSc)

## Major Requirements

For the Computer Engineering major, students must complete the following courses with a grade of 2.0 or higher in each course:

### Math and Chemistry (26 credits):

These courses may be taken before or after entry into the major.

- B CHEM 143 and 144: General Chemistry and Lab – 6 credits
- STMATH 207: Introduction to Differential Equations – 5 credits
- STMATH 208: Matrix Algebra with Applications – 5 credits
- STMATH 224: Multivariable Calculus – 5 credits
- STMATH 390: Probability and Statistics in Engineering – 5 credits

### Computer Science Core Courses (30 credits):

- CSS 301: Technical Writing – 5 credits
- CSS 342: Advanced Data Structures, Algorithms, and Discrete Mathematics I – 5 credits
- CSS 343: Advanced Data Structures, Algorithms, and Discrete Mathematics II – 5 credits
- CSS 360: Software Engineering – 5 credits
- CSS 427: Intro to Embedded Systems – 5 credits
- CSS 430: Operating Systems – 5 credits

### Electrical Engineering Core Courses (30 credits):

- BEE 215: Fundamentals of EE – 5 credits
- BEE 233: Circuit Theory – 5 credits
- BEE 235: Continuous Time Linear Systems – 5 credits
- BEE 271: Digital Circuits & Systems – 5 credits
- BEE 331: Devices & Circuits I – 5 credits
- One of either BEE 425: Microprocessor System Design – 5 credits or CSS 422: Hardware and Computer Organization – 5 credits

### Computer Engineering Capstone (10 credits)

- B ENGR 494: Engineering Design and Innovation – 3 credits
- B ENGR 495: Capstone Project in Engineering I – 3 credits
- B ENGR 496: Capstone Project in Engineering II – 4 credits

### Computer Engineering Elective Requirement (10 credits)

- Elective courses must have either the CSS or BEE prefix
- At least 5 elective credits must be 400-level
- The remaining 5 elective credits must be 300-level or higher
- Maximum of 5 credits combined can be CSS or BEE “Special Topics” courses
- Maximum of 5 credits combined can be CSS or BEE Independent Study (498) or Undergrad Research (499)

## Sample 4-year Course Plan

### Year 1

Autumn	Winter	Spring	Summer
B WRIT 134 (5)	B WRIT 135 (5)	Gen Ed (A&H, SSC, or DIV) (5)	
BCHEM 143 (4)	CSS 142 (5)	CSS 143 (5)	
B CHEM 144 Lab (2)	CSSSKL 142 (1)	CSSSKL 143 (1)	
STMATH 124 (5)	STMATH 125 (5)	STMATH 126 (5)	

### Year 2

Autumn	Winter	Spring	Summer
BPHYS 121 (5)	BPHYS 122 (5)	Gen Ed (A&H, SSC, or DIV) (5)	
Gen Ed (A&H, SSC, or DIV) (5)	Gen Ed (A&H, SSC, or DIV) (5)	Gen Ed (A&H, SSC, or DIV) (5)	
STMATH 207 (5)	STMATH 208 (5)	STMATH 224 (5)	
		APPLY TO MAJOR	

### Year 3

Autumn	Winter	Spring	Summer
CSS 342 (5)	B EE 233 (5)	B EE 271 (5)	
CSS 301 (5)	CSS 343 (5)	B EE 331 (5)	
B EE 215 (5)	CSS 360 (5)	CSS 427 (5)	

### Year 4

Autumn	Winter	Spring	Summer
B ENGR 494 (3)	B ENGR 495 (3)	B ENGR 496 (3)	
CSS 430 (5)	B EE 235 (5)	STMATH 390 (5)	
B EE 425 (5)	Gen Ed (A&H, SSC, or DIV)	B EE/CSS Elective 300+ level (5)	
Gen Ed (A&H, SSC, or DIV) (5)	B EE/CSS Elective 300+ level (5)		

This is a sample schedule of courses based on degree requirements. The actual degree plan may differ depending on the course of study selected, the number of starting credits, whether you choose to take summer courses, or the starting admission point. This guide is not a substitute for academic advising. For more information, contact your academic advisor or visit [www.uwb.edu/advising](http://www.uwb.edu/advising).