Engineering
Concentration: Computer Engineering
Bachelor of Science in Engineering
2025-2026

General Areas of Service: Computer engineers design and develop both computer hardware and software, apply technical skills to solve problems in the areas of microprocessor applications, micro-controller systems, and data communication systems. Computer engineers may also work in such areas as software engineering, embedded systems, VLSI design, networking, and computer operating systems. The work may involve research and development, design, reliability testing and quality control, production marketing, sales, and management. Computer engineering is good preparation for employment as a software engineer.

Professional Training: A bachelor's degree in engineering, with a concentration in computers, is the minimum educational requirement to enter this profession, although graduate training is preferred or required for some jobs.

Job Outlook: According to the Bureau of Labor Statistics (BLS), "employment of computer hardware engineers is projected to grow 5 percent from 2022 to 2032, about as fast as the average for all occupations." The BLS states that currently less hardware engineers are needed to keep up with innovations than software engineers. However, a projected increase in electronic devices with embedded computer chips may increase demand for computer hardware engineers in the near future. Demand for software developers, network architects, and related specialties is projected to have above average growth. (See www.bls.gov)

Earnings: In their May 2023 salary survey, the Bureau of Labor Statistics reports the median annual wage for computer engineers as $138,080, with the lowest 10 percent earning less than $37,150 and the top 10 percent earning more than $208,000. (See www.bls.gov)

Community Impact Certificate: Engineers with a heart for service are encouraged to pursue the Community Impact Certificate. This certificate is designed to provide students with a transformative complement to their chosen academic education at Walla Walla University. This program aims to engage all of its students deeply, fostering a focused community that actively learns, grows and serves together. When the requirements for the emphasis are met, they will receive a certificate on their transcript and diploma that can be seen as representing a degree of expertise in preparing them for humanitarian careers. It requires a few additional classes beyond the standard engineering classes. The number of extra classes can be minimized if general studies classes are chosen carefully.

Note: Students should take pre-calculus in high school or during the summer to allow them to enroll in Calculus I during their first quarter. Failure to complete Calculus II prior to the start of the second year will delay the student's graduation.

Students are expected to take 20 Technical Electives to meet their degree requirements. Technical and Major electives are to be selected with the approval of the student's Engineering advisor.

Engineering Phase Advancement: In the interest of having students matched with majors in which they can succeed, the School of Engineering has established three phases for students to advance through.

Before graduation, all students must take an exit exam.

SCHOOL OF ENGINEERING

Chan Shun Pavilion
(509) 527-2765

Websites

Walla Walla University
University Bulletin

School of Engineering

Faculty

Dean
Delvin Peterson

Associate Dean
Bryce Cole

Advisors
Rob Frohne
Natalie Smith-Gray
Delvin Peterson

Professional Organizations

Association for Computing Machinery
Institute of Electrical and Electronics Engineers

Suggested Degree Path

TOTAL CREDITS REQUIRED: 200 cr. GENERAL STUDIES REQUIREMENTS: 44 cr. See the Undergraduate Bulletin for Details

The chart below details one suggested path a student may take to complete a bachelor's degree in Engineering, with a concentration in Computers. Cognates are listed in *italics*.

Freshman Year

Fall Courses	Hours
Intro to Engineering (ENGR 121)	2
Calculus I (MATH 171)	4
General Chemistry & Lab(CHEM 141 & 144)	4
Fundamentals of Programming I(CPTR 141)	4
General Studies	2
Total	16

Winter Courses	Hours
Intro to CAD (ENGR 122)	2
Calculus II (MATH 172)	4
General Chemistry & Lab\(CHEM 142 & 145)	4
Fundamentals of Programming II(CPTR 142)	4
Intro to Analytical Writing (ENGL 121)	3
Total	17

Spring Courses	Hours
Intro to Engineering Design (ENGR 123)	2
Intro to Linear Algebra (MATH 239)	4
Sequential & Parallel Data Structures (CPTR 242)	4
Intro to Research Writing (ENGL 122)	3
General Studies	3
Total	16

Sophomore Year

Fall Courses	Hours
Engineering Mechanics (ENGR 221)	3
Sophomore Colloquium (ENGR 295)	0
Calculus III (MATH 273)	4
Comp. Org & Assembly Lang (CPTR 280)	3
Principles of Physics (PHYS 251 & 254)	4
Research Writing (ENGL 223)	3
Total	17

Winter Courses	Hours
Engineering Mechanics (ENGR 222)	3
Discrete Mathematics (MATH 250)	4
Differential Equations (MATH 286)	3
Principles of Physics & Lab(PHYS 252 & 255)	4
General Studies	3
Total	17

Spring Courses	Hours
Engineering Mechanics (ENGR 223)	3
Circuit Analysis (ENGR 228)	4
Calculus IV (MATH 274)	4
Principles of Physics & Lab (PHYS 253 & 256)	4
General Studies	2
Total	17

Junior Year

Fall Courses	Hours
Linear Systems Analysis (ENGR 350)	4
Digital Logic (ENGR 354)	3
Electronics (ENGR 356)	4
Junior Seminar (ENGR 396)	1
General Studies	5
Total	17

Winter Courses	Hours
Embedded System Design (ENGR 355)	3
Colloquium (ENGR 495)	0
-Computer Architecture (CPTR 380)	4
Electives	4
General Studies	5
Total	16

Spring Courses	Hours
Junior Seminar (ENGR 397)	0
Probability & Statistics (MATH 315)	4
Operating Systems (CPTR 352)	4
-Embedded Programming (CPTR 480)	4
General Studies	5
Total	17

Senior Year

Fall Courses	Hours
Digital Design (ENGR 433)	4
Capstone Engineering Project (ENGR 496)	1
Software Engineering (CPTR 450)	3
Electives	4
General Studies	5
Total	17

Winter Courses	Hours
Colloquium (ENGR 495)	0
Capstone Engineering Project (ENGR 497)	2
+Computer Networks (CPTR 456)	4
Electives	8
General Studies	3
Total	17

Spring Courses	Hours
+Physical Electronics & Lab (ENGR 312 & 315)	4
Engineering Economy (ENGR 326)	4
Capstone Engineering Project (ENGR 498)	2
Electives	4
General Studies	2
Total	16

+ Offered even years only
- Offered odd years only

Office of Academic Advisement
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