

Computer Engineering Graduation Requirements

University of Washington

The graduation requirements shown below are subject to change.

For more information, see the CSE Undergraduate Website, available at
http://www.cs.washington.edu/education/ugrad/academics/degree_requirements.html

General Education Component

Written & Oral Communication (12 credits)

- *English Composition (5)
- HCDE 231 Intro. to Technical Writing (3)
- HCDE 333 Adv. Tech. Writing & Oral Pres. (4)

Areas of Knowledge (30 credits)

- Visual, Literary, and Performing Arts (10-20)
- Individuals and Societies (10-20)

Mathematics & Science Component

Mathematics & Natural Sciences (41 credits)

- *MATH 124, 125, 126 or 134, 135, 136
Calculus with Analytical Geometry (15)
- MATH 308 or 318 (waived if 136 taken)
Matrix / Linear Algebra (3)
- *PHYS 121 Mechanics (5)
- *PHYS 122 Electromagnetism &
Oscillatory Motion (5)
- 10 additional credits from the list of approved
natural science courses in the CSE Handbook (10)
- 3 to 6 additional credits of Math/Science (to
bring the total to 41) chosen from approved
natural science courses in the CSE Handbook,
STAT 390, 391, 394, MATH 307, 309, 334,
335, and AMATH 351, 353.
(STAT 391 recommended.) (3-6)

* Denotes prerequisites (must be fully completed before application date). Recommended: regardless of AP credit, try to take one calculus or post-calculus math course and one approved natural science course prior to applying to the department.

The minimum acceptable grade for any course in the Mathematics & Science or Computer Engineering Components, or in Written & Oral Communication, is 2.0. A student's overall GPA must not fall below a 2.0.

Total credits required for graduation: 180

Computer Engineering Component

Required (33 credits)

- *CSE 142 Computer Programming I (4)
- *CSE 143 Computer Programming II (5)
- CSE 311 Foundations of Computing I (4)
- CSE 312 Foundations of Computing II (4)
- CSE 332 Data Abstractions (4)
- EE 205 Intro to Signal Conditioning
or EE 215 Intro to Electrical Engineering (4)
- CSE 351 The Hardware/Software Interface (4)
- CSE 352 Hardware Design & Implementation (4)

CSE Electives (39 credits)

Select enough additional credits from the lists of approved courses in the CSE Handbook, including at least

- 4 courses chosen from CSE401, CSE403, CSE444, CSE451, CSE461, CSE466, CSE467, CSE471, and CSE484; at least one of which must be CSE403, CSE466, or CSE484 (16)
- 2 additional courses from the CSE Core Courses list in the CSE Handbook (6-8)
- a Design Capstone course from the approved list in the CSE Handbook (5)
- Additional courses from the CSE Electives list in the CSE Handbook, including at least 7 credits from College of Engineering courses, to bring the total CSE Elective credits to 39. (10-12)

Additional Engineering credits to bring the total Engineering credits to 39, not including the Required section above (0-5 credits)

Free Electives to bring total credits up to the 180 required for graduation (20-25 credits)

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General Education Component

Language Skills (5-20 credits)

- *English Composition (5)
- Foreign Language through 3rd quarter (0-15)

Reasoning and Writing in Context (15 credits)

- Quantitative/symbolic reasoning (5)
- Writing across the curriculum (W courses) and/or additional composition (10)

Note: These courses may double count as Areas of Knowledge requirements. All students will meet the Quantitative/symbolic reasoning requirement via MATH124 or 134 as required below.

Areas of Knowledge (75 credits)

- Visual, Literary, and Performing Arts (20)
- Individuals and Societies (20)
- The Natural World (20)
- Additional coursework (15)

Note: For most students, the Math & Science Component plus CSE142 & 143 will completely satisfy the "Natural World" and "Additional Coursework" requirements.

Mathematics & Science Component

Mathematics (15-18 credits)

- *MATH 124, 125, 126 or 134, 135, 136 (honors) (15)
Calculus with Analytical Geometry
- MATH 308 or 318 (waived if 136 taken) (3)

Natural Science (10 credits)

- *PHYS 121, CHEM 142, BIOL 180, or any course (5)
from the list of approved natural science courses on the CSE website.
- Five additional credits of natural science (5)
from the approved list

Computer Science Component

Required (29 credits)

- *CSE 142 Computer Programming I (4)
- *CSE 143 Computer Programming II (5)
- CSE 311 Foundations of Computing I (4)
- CSE 312 Foundations of Computing II (4)
- CSE 331 Software Design & Implementation (4)
- CSE 332 Programming Abstractions (4)
- CSE 351 The Hardware/Software Interface (4)

CS Senior Electives (33 credits)

Select at least 33 additional credits from courses on the approved CSE Electives list, including at least

- 6 courses from the CSE Core Courses list of (18-24)
which 4 courses must be CSE 400-level courses
- Either 1 additional course from the CSE Core (3-5)
Courses list or 1 course from the CSE
Capstone list on the CSE website
- Additional courses from either the CSE (4-12)
Core Courses list or the CSE Elective list
to bring total CSE Elective credits to 33

Free Electives to bring total credits up to the 180 required for graduation (20-45 credits)

The minimum grade required for math, science, language, reasoning and writing in context, CSE Electives and Computer Science required coursework is a 2.0. A student's cumulative GPA must not fall below a 2.0.

*** Denotes prerequisites (must be fully completed before application date). Students who meet the science prerequisites with AP credit are strongly encouraged to take an approved science course at UW prior to applying to the department.**