BSECE

B.S. Electrical and Computer Engineering Graduation Requirements
University of Washington
www.ece.uw.edu

Requirement Sheet Key

♦ Admission requirements complete by application deadline
✓ Enrollment requirements complete before Autumn start

Natural Sciences (NSc)   (45 Credits)

♦ MATH 124 (5cr) – Calculus I
♦ MATH 125 (5cr) – Calculus II *[pr: MATH 124]*
♦ MATH 126 (5cr) – Calculus III *[pr: MATH 125]*
✓ MATH 207 (3cr) – Differential Equations *[pr: MATH 125]*
MATH 208 (3cr) – Matrix Algebra *[pr: MATH 126]*
♦ PHYS 121 (5cr) – Mechanics with lab *[pr: MATH 124 concurrent]*
♦ PHYS 122 (5cr) – Electromagnetism with lab *[pr: MATH 125 concurrent & PHYS 121]*
IND E 315 or STAT 390 (3-4cr)
✓ Two courses from: BIOL 130, BIOL 220, CHEM 142 (or CHEM 143 or CHEM 145), MATH 224, PHYS 123 (or PHYS 143).
Additional NSc courses from approved list to reach 45 credits: see adviser for list of approved courses.

Arts and Humanities (A&H)/
Social Sciences (SSc)   (24 Credits)

10 credits in A&H required.
10 credits in SSc required.
Remaining 4 credits can be either A&H or SSc.
Minimum 5 credits in Diversity (DIV) required. Can overlap with A&H/SSc credits. *Special Note:* For students admitted to the University prior to autumn quarter 2023, the DIV requirement is 3 credits.

Written & Oral Communications   (12 Credits)

♦ English Composition (5cr)
ENGR 231 (3cr) – Intro. to Technical Writing *[pr: Engl. Comp.]*
EE 393 (4cr) – Adv. Tech. Comm. or Dept approved alternative *[pr: ENGR 231]*

Computer Programming   (4-5 Credits)

✓ Either CSE 123 (4cr) – Intro to Computer Programming III *[pr: CSE 122 or Paul G. Allen School Self-Placement]* or CSE 143 (5cr) – Computer Programming II *[pr: CSE 142]*
[♦ If student does not start at CSE 123 or CSE 143, must complete CSE 122 or CSE 142 as an admission requirement.]

ECE Core Courses   (21 -23 Credits)

EE 201 (1cr) – Computer Hardware Skills *[pr: CSE 122, CSE 123, CSE 142, or CSE 143 concurrent]*
EE 215 (4cr) – Fundamentals of Electrical Engineering *[pr: PHYS 122 & MATH 126; MATH 207 concurrent]*
One of the following: EE 241 (2cr) – Programming for Signal Processing Applications or CSE 163 (4cr) – Intermediate Data Programming *[pr: CSE 122, CSE 123, CSE 142, CSE 143, or CSE 160]*
EE 242 (5cr) – Signals, Systems, and Data I *[pr: MATH 207 concurrent; and either EE 241 concurrent or CSE 163]*
EE 271 (5cr) – Digital Circuits and Systems *[pr: CSE 121, CSE 122, CSE 123, CSE 142, or CSE 143]*
EE 280 (4cr) – Exploring Devices *[pr: PHYS 122]*

Advanced Electrical and Computer Engineering (ECE)
Electives   (36 Credits)

- Professional Issues (1-5cr): see adviser for list of approved courses
- Capstone (4-8cr): see adviser for list of approved courses
- Additional 300 and 400 level EE courses to reach 36 credits. These credits are subject to the following:
  o A maximum of 2 credits of seminar courses (see adviser for list of approved seminar courses)
  o The following course at the 200 level may count: EE 233
  o A maximum of 10 credits of EE 499
  o The following non-EE courses may count: CSE 373, CSE 374 and ENGR 321
    ▪ A maximum of 4 credits of ENGR 321 may apply
  o Up to a maximum of 10 credits combined of ENGR 321 and EE 499 may apply
  o Students may pursue optional pathways in order to complete their 36 credits of ECE courses
  o A minimum of 20 credits at the 400 level

Free Electives

Students must take additional electives in order to reach the 180 total credits required to graduate with the BSECE. Free elective credits may be fulfilled by any course for which the University of Washington gives credit, except courses that duplicate or parallel courses for which you have already received credit.

Total Credits Required for Graduation   (180 Credits)

Freshman – Autumn Quarter

♦ MATH 124 – Calculus I	5
✓ CHEM 142 – Gen. Chemistry *	5
♦ English Composition	5
Quarter Total	**15**

Freshman – Winter Quarter

♦ MATH 125 – Calculus II	5
♦ PHYS 121 – Mechanics	5
A&H	5
Quarter Total	**15**

Freshman – Spring Quarter

♦ MATH 126 – Calculus III	5
♦ PHYS 122 – Electromagnetism	5
SSc	5
Quarter Total	**15**

Sophomore – Autumn Quarter

✓ MATH 207 – Diff. Equations	3
✓ PHYS 123 – Waves *	5
♦ CSE 122 – Intro. Comp. Prog. II	4
Free Elective	4
Quarter Total	**16**

Sophomore – Winter Quarter

MATH 208 – Matrix Algebra	3
✓ CSE 123 – Intro. Comp. Prog. III	4
EE 215 – Fundamentals of EE	4
Free Elective	4
Quarter Total	**15**

Sophomore – Spring Quarter

Free Elective	4
EE 280 – Exploring Devices	4
EE 241 – Programming Sig. Proc.	2
EE 242 – Signals, Systems, & Data I	5
Quarter Total	**15**

Junior – Autumn Quarter

Statistics	3
EE 271 – Digital Circuits & Systems	5
ENGR 231 – Intro. Tech. Writing	3
Free Elective	4
Quarter Total	**15**

Junior – Winter Quarter

Advanced ECE Elective	5
EE 393 – Adv. Tech. Communication	4
Additional NSc Course	5
EE 201 – Computer HW Skills	1
Quarter Total	**15**

Junior – Spring Quarter

Advanced ECE Elective	4
Advanced ECE Elective	3
A&H/SSc/DIV	4
Free Elective	5
Quarter Total	**16**

Senior – Autumn Quarter

Advanced ECE Elective	5
Advanced ECE Elective	5
Advanced ECE Elective (Prof. Issues)	1
Free Elective	4
Quarter Total	**15**

Senior – Winter Quarter

Advanced ECE Elective (Capstone)	4
Advanced ECE Elective	5
SSc	5
Quarter Total	**14**

Senior – Spring Quarter

Advanced ECE Elective (Capstone)	4
Free Elective	5
A&H	5
Quarter Total	**14**

Note: This is a sample plan for a student with zero incoming credits taking the minimum number of credits to graduate. Most students will need to adjust this plan based on individual interests and course choices. Please work with your adviser to make adjustments.

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For a list of ECE degree electives and courses go to https://www.ece.uw.edu/academics/bachelor-of-science/bsece/degree-requirements/

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