BYU Computer Science Major

Fall 2026 Requirements

Major (74-75 Hours)

Grades below C- are not allowed in major courses.

1. Complete the following courses: CS 111, 191, 224, 235, 236, 240, 252, 260, 291, 312, 324, 340, 404
2. Complete the following supporting courses: WRTG 316, Math 112, 213, 215, and PHSCS121,
3. Complete one of the following: Math 431, Stat 121 or Stat 201
4. Complete one of the following: Math 113, Math 290 or STAT 220
5. Complete 21 hours from the following options
   a. 12 hours **must** be from the following courses, but may take up to 21 hours: CS 329, 330, 345, 355, 356, 393, 401R**,412, 416, 418, 428, 430, 431, 450, 452, 453, 455, 456, 460, 462, 465, 466, 470, 471, 473, 474, 479, 486, 501R**, 513, 556, 574, 575, 580
   b. Up to 6 hours from the following CS 180, 202, 203, 204, 256, 270, 405, EC EN 220, MATH 113, Math 290, STAT 220
   c. Up to 8 hours from the following courses: EC EN 330, EC EN 427, IS 567, or Math 485
   d. Up to 9 hours from the following courses: CS 480, 481, 482, 483, 493R**, 494, 495, 497R**, 498R** (If CS, 493R, 497R, 498R, or 501R is chosen, it must be taken for three credit hours)

Guide only---please consult MyMap for full requirements.

CORE

Stat 121 or 201 or Math 431 (Stats or Prob Theory)
Math 112 (Calculus 1)
Math 113, or Math 290 or STAT 220
PHSCS 121 (Newtonian Mechanics)
CS 111 (Intro to CS)
CS 191 (Exploring CS (.5))
CS 235 (Data Structures Req.142 or cs 111)
CS 260 (Web Programming Req: CS 142 or 111)
CS 291 (Careers in CS (.5) Req: 111 & 191)
CS 236 (Discrete Structures Req. CS 235)
CS 224 (Intro to Comp Sys Req. CS 235)
Math 213 (Elem Linear Algebra Req. Math 112)
Math 215 (Comp Linear Algebra Req. Math 112)
CS 240 (Adv Software Cons. Req. 235)
CS 252 (Intro Comp Theory Req. 236)
WRTG 316 (Technical Writing)
CS 312 (Algorithm Analysis CS 236)
CS 340 (Software Design Req. CS 240 & 260)
CS 404 (Ethics in Comp Req. WRTG CS 240 & 316)
Elective A
CS 324 (Sys Programming Req.CS 224)

Semester 1 Semester 2 **Freshman**
Semester 3 Semester 4 **Sophomore**
Semester 5 Semester 6 **Junior**
Semester 7 Semester 8 **Senior**

Key

- Core class
- Minor Class
- Elective Class
- Prerequisite
- May be taken concurrently

Elective Information:
At least 12 hours **must** come from elective group A. The remaining 9 hours can be taken from any of the elective groups A (up to 9), B (up to 6), C (up to 8), or D (up to 9).

Elective A
Elective A
Elective A
Elective A,B C or D
Elective A, B C or D
Elective A, B C or D

Elective A
Complete 12 (required) up to 21 hours)

- CS 329 QA & DevOps Req: 240 & 260
- CS 412 Convex Optimization Req: 240, Math 213 or 313
- CS 452 Database Modeling Req: 240
- CS 466 Blockchain Tech CS 312
- CS 330 Prog Languages Req: CS 236 & 260 or 224
- CS 416 Adv. Algorithms Req:CS 240 & CS 312
- CS 453 Info Retrieval Req: 240
- CS 470 Artificial Intelligence 312,Math 215,Stat 121
- CS 501R** Adv CS Topics
- CS 345 Operating Sys Dsgn Req: 224 & 240
- CS 418 Bioinformatics Algorithms Req:CS 2402
- CS 455 Comp Graphics CS 355,Math 213,215
- CS 471 Voice User Interfaces
- CS 513 Robust Control Req: Math 213, 215
- CS 355 Interactive Graphic Req: 240,Math 213,215
- CS 428 Software Engineer Req: 340
- CS 456 UI Software Req: 240,& CS 356
- CS 473 Avd. Machine Learning CS 270 & Math 213&215
- CS 556 Inter Soft Systems
- CS 356 Adv.Tech in HCI Req: 256 & 260
- CS 430 Formal Verification Req: CS 330 or Math 290
- CS 460 Networks Req: 235
- CS 474 Deep Learning CS 270 or CS 312
- CS 574 Transformers for NLP Req: 270, 312
- CS 393 Collaborative Problem Solving Req:CS 240 & 342
- CS 431 A. Lang & Compilers Req: 240
- CS 462 Distributed Systems Req: 260, & 324
- CS 479 Machine Translation CS 240
- CS 575 Intro toNetwork Science Req: 312
- CS 401R** Topics in CS
- CS 450 Computer Vision Req: 312, & Math 313
- CS 465 Security Req: 324
- CS 486 Verification & Valid Req: 312
- CS 580 Theory of Predictive Modeling

Elective B
(Choose up to 6 hours)

- CS 180 Intro to Data Science
- CS 405 Software Business Req: 240 & WRTG 316
- CS 202 SE Lab 1 (1 credit) Req: CS 142 or 111
- ECEN 220 Fund of Digital sys CS 142 or 111
- CS 203 SE Lab 2 (1 credit) Req: CS 202 & 235
- MATH 113 Calculus 2 Req: MATH 112
- CS 204 SE Lab 3 (1 credit) Req: CS 203 & 240
- MATH 290 Fundamentals of Math Req: MATH 112
- CS 256 Intro to HCI
- STAT 220 Stat Modeling for DS Req: MATH 121 & CS 111
- CS 270 Intro to ML CS 111 or 142 & Math 112

Elective C
(Choose up to 8 hours)

- EC EN 330 Embedded Program Req: CS 235 & ECEN 220 or 224
- EC EN 427 Embedded systems Req: EC EN 323 or 330
- IS 567 Cybersecurity & Pen Req: CS 465 or IT 366
- MATH 485 Cryptography Req: MATH 213

Elective D
(Choose up to 9 hours)

- CS 480 Software Eng Cap 1 Req: 240, 340, 329
- CS 495 Capstone 2 Req: 240, 494
- CS 481 Software Eng Cap 2 Req: CS 480
- CS 493R** Comp. Competitions Req: 240
- CS 482 Data Science Cap 1 Req: 240
- CS 497R** Research
- CS 483 Data Science Cap 2 Req: 282
- CS 498R** Special Projects Req: 240
- CS 494 Capstone 1 Req: 240

**Must be taken for 3 hours to fill the requirement