

Software Engineering Emphasis

Fall 2025 Requirements

Major (74-76 Hours)

Grades below C- are not allowed in major courses.

- Complete the following courses: CS 111, 191, 202, 203, 204, 224, 235, 236, 240, 260, 291, 312, 324, 329, 340, 404, 452, 480, 481
- Complete the following supporting courses: WRTG 316, Math 112, 213, 215, and Phscs 121
- Complete one of the following: Stat 121 or Stat 201
- Complete one of the following three courses: Math 113, Math 290 or STAT 220
- Complete 2 courses from the following courses: CS 256, 270, 330, 345, 356, 453, 456, 460, 462, 465, 473, 486
- Complete 1 courses from the following courses: CS 252, 256, 270, 330, 345, 355, 356, 393, 401R**, 405, 412, 416, 430, 450, 453, 455, 456, 460, 462, 465, 466, 470, 471, 473, 474, 479, 486, 493R**, 497R**, 498R**, 501R**, 513, 556, 574, 575, 580, EC EN 424, EC EN 425, IT&C 567, MATH 411, Math 431, MATH 485

(If CS 401R, 493R, 497R, 498R, or 501R is chosen, it must be taken for three credit hours)

Elective Information:

Students must complete a total of 3 elective courses. 2 from Elective A and 1 from Elective B. Courses may not double count between Elective A and Elective B.

Elective A (Choose 2 courses)

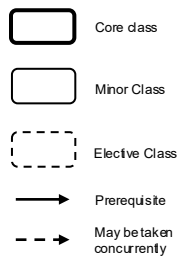
CS 256 Intro to HCI Req: 240, 356	CS 456 UI Software Req: 240, 356
CS 270 Intro to Machine Learning Req: 240	CS 460 Networks Req: 324
CS 330 Prog Languages Req: 240	CS 462 Distributed Systems Req: 260, 324
CS 345 Operating Sys Dsgn Req: 224 & 240	CS 465 Security Req: 324
CS 356 Adv. Tech in HCI Req: 256 & 260	CS 473 Adv. Machine Learning Req: 312, Math 215, Stat 121
CS 453 Info Retrieval Req: 240	CS 486 Verification & Valid Req: 312

CS 252 Intro Comp Theory Req: 235	CS 356 Adv. Tech in HCI Req: 256 & 260	CS 430 Formal Verification Req: 330 or Math 290
CS 256 Intro to HCI Req: 240	CS 393 Collaborative Problem Solving Req: 240	CS 450 Computer Vision Req: 312, 355, Math 313
CS 270 Intro to Machine Learning Req: 240	CS 401R** Topics in CS Req: 240	CS 453 Info Retrieval Req: 240
CS 330 Prog Languages Req: 240	CS 405 Software Business Req: 240 & Engl 316	CS 455 Comp Graphics Req: 355, Math 213, 215
CS 345 Operating Sys Dsgn Req: 224 & 240	CS 412 Convex Optimization Req: 240	CS 456 Mobile & Ubiquitous HCI Req: 240, 356
CS 355 Interactive Graphics Req: 240, Math 213, 215	CS 416 Advanced Algorithms Req: 312, 355, Math 313	CS 460 Networks Req: 235

Elective B (Choose 1 courses)

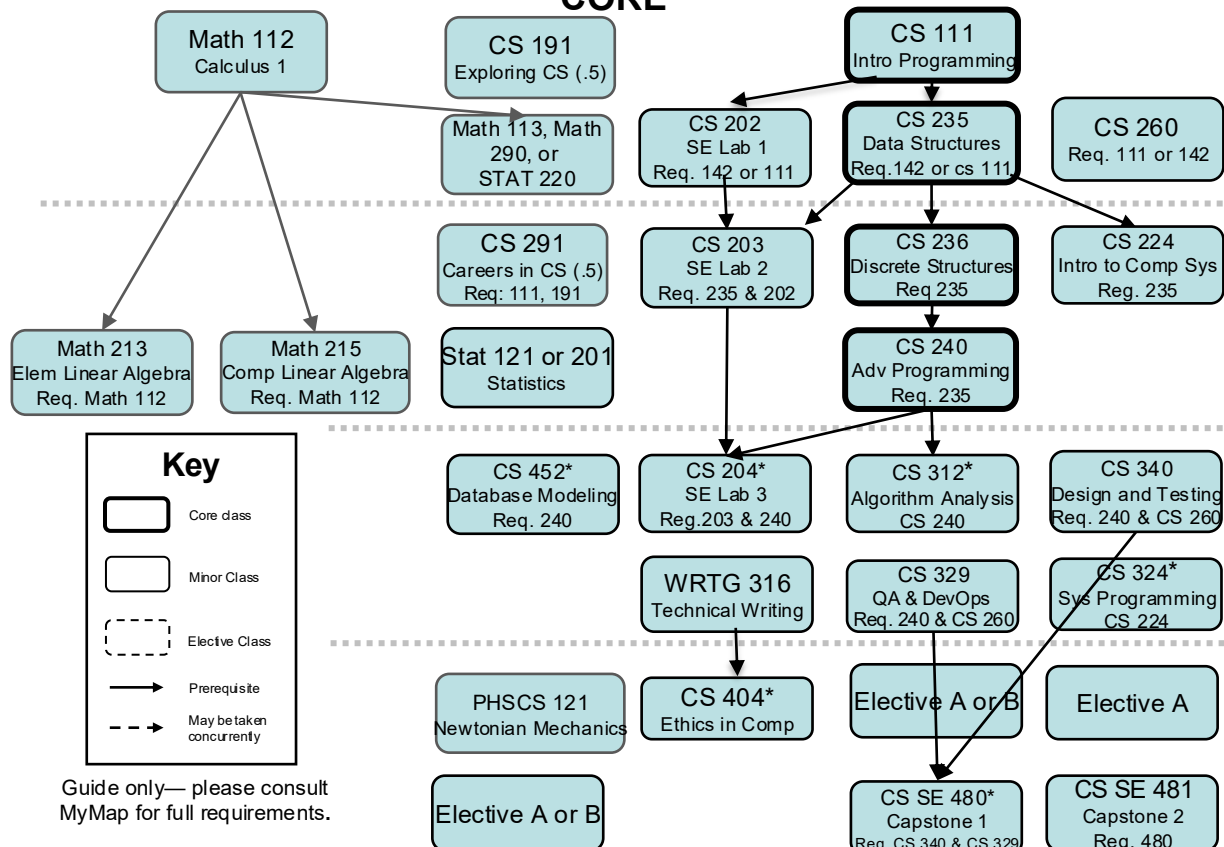
CS 462 Distributed Systems Req: 260, 324	CS 473 Adv. Machine Learning Req: 312, Math 215, Stat 121	CS 497R** Research Req: 240	CS 575 Intro to Network Science Req: 312	MATH 431 Probability Theory Req: Math 213
CS 465 Security Req: 324	CS 474 Deep Learning Req: 312, Math 213, 215	CS 498R** Special Projects Req: 240	CS 580 Theory of Predictive Modeling Req: 240	MATH 485 Cryptography Req: MATH 213
CS 466 Block Chain Req: 312	CS 479 Intro to Machine Translation Req: 312	CS 501R** Adv CS Topics Req: 240	EC EN 424 Computer Systems Req: 240	
CS 470 Artificial Intelligence Req: 312, Math 215, Stat 121	CS 486 Verification & Valid Req: 312	CS 513 Robust Control Req: Math 213, 215	EC EN 425 Real-Time Operating Systems Req: 240	
CS 471 Voice User Interfaces Req: 240	CS 493R** Comp. Competition Req: 240	CS 556 Research Methods in HCI Req: 240	IT&C 567 Security Testing Req: CS 465 or IT 366	
		CS 574 Transformers for NLP Req: 270, 312	MATH 411 Numerical Methods Req: MATH 334	

Key



Guide only— please consult MyMap for full requirements.

CORE



BYU Computer Science Major

Software Engineering Emphasis

Fall 2024 Requirements

Major (74-76 Hours)

- Grades below C- are not allowed in major courses.
- Complete the following courses: CS 111, 191, 202, 203, 204, 224, 235, 236, 240, 260, 291, 312, 324, 329, 340, 404, 452, 480, 481
 - Complete the following supporting courses: WRTG 316, Math 112, 213, 215, and Phscs 121
 - Complete one of the following: Stat 121 or Stat 201
 - Complete one of the following three courses: Math 113, Math 290 or STAT 220
 - Complete 2 courses from the following courses: CS 256, 270, 330, 345, 356, 453, 456, 460, 462, 465, 473, 486
 - Complete 1 courses from the following courses: CS 252, 256, 270, 330, 345, 355, 356, 393, 401R**, 405, 412, 450, 453, 455, 456, 460, 462, 465, 466, 470, 471, 473, 474, 479, 486, 493R**, 497R**, 498R**, 501R**, 513, 556, 574, 575, 580, EC EN 424, EC EN 425, IT&C 567, MATH 411, Math 431, MATH 485

(If CS 401R, 493R, 497R, 498R, or 501R is chosen, it must be taken for three credit hours)

Elective Information:

Students must complete a total of 3 elective courses.2 from Elective A and 1 from Elective B. Courses may not double count between Elective A and Elective B.

Guide only— please consult MyMap for full requirements.

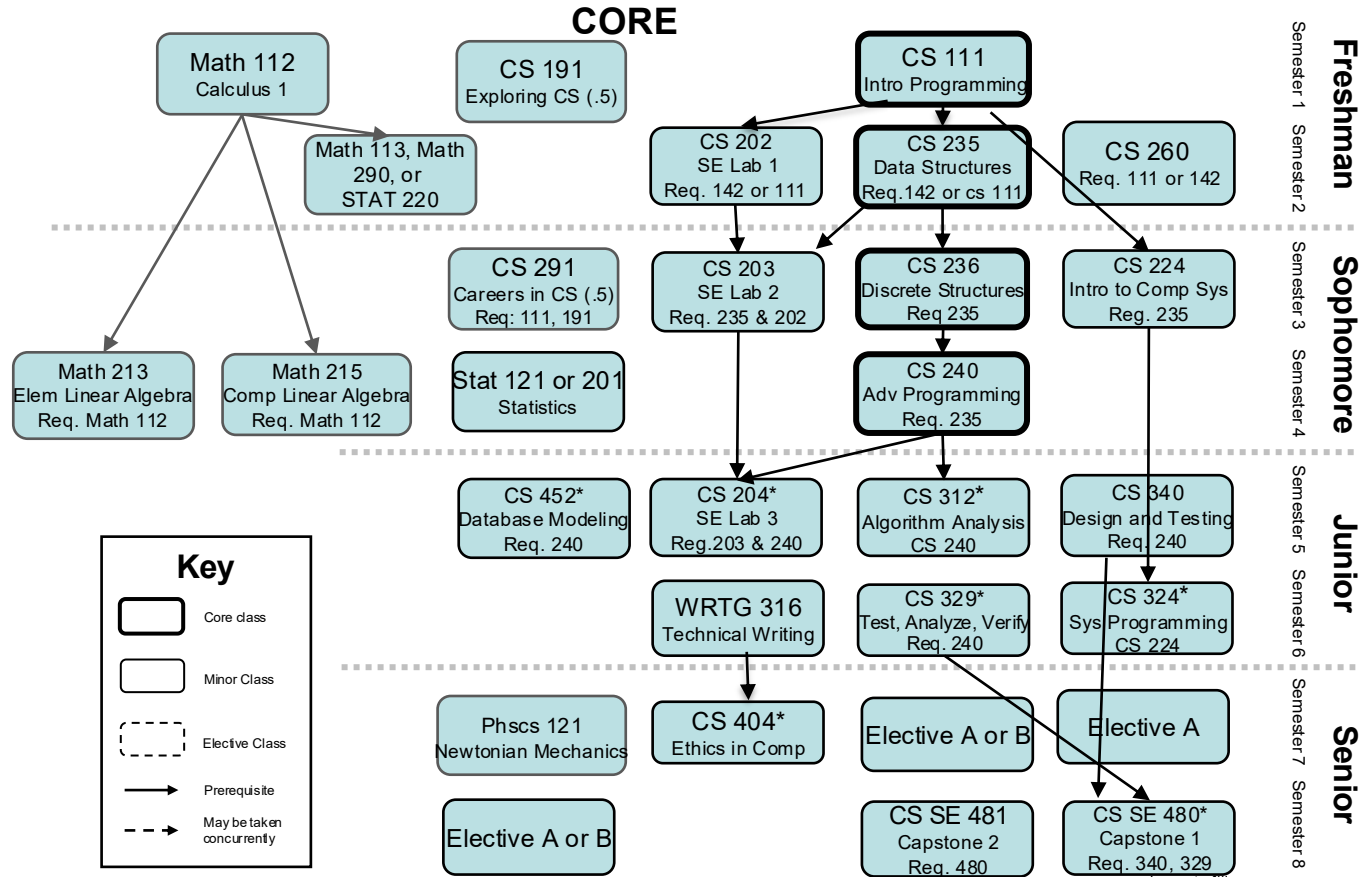
Elective A (Choose 2 courses)

CS 256 Intro to HCI	CS 453 Info Retrieval Req: 240	CS 473 Adv. Machine Learning 312, Math 215, Stat 121
CS 270 Intro to Machine Learning	CS 456 UI Software Req: 240, 356	CS 486 Verification & Valid Req: 312
CS 330 Prog Languages Req: 240	CS 460 Networks Req: 324	
CS 345 Operating Sys Dsgn Req: 224 & 240	CS 462 Distributed Systems Req: 260, 324	
CS 356 Adv. Tech in HCI Req: 256 & 260	CS 465 Security Req: 324	

*Prerequisite: CS 240

Elective B (Choose 1 courses)

CS 252 Intro Comp Theory Req: 235	CS 356 Adv. Tech in HCI Req: 256 & 260	CS 453 Info Retrieval Req: 240	CS 466 Block Chain Req: 312	CS 479 Intro to Machine Translation	CS 501R** Adv CS Topics	EC EN 424 Computer Systems
CS 256 Intro to HCI	CS 393 Algorithms & Problem Solving	CS 455 Comp Graphics Req: 355, Math 213, 215	CS 470 Artificial Intelligence 312, Math 215, Stat 121	CS 486 Verification & Valid Req: 312	CS 513 Robust Control Req: Math 213, 215	EC EN 425 Real-Time Operating Systems
CS 270 Intro to Machine Learning Req:	CS 401R** Topics in CS	CS 456 UI Software Req: 240, 356	CS 471 Voice User Interfaces	CS 493R** Comp. Competition Req: 240	CS 556 Research Methods in HCI	IT&C 567 Security Testing Req: CS 465 or IT 366
CS 330 Prog Languages Req: 240	CS 405 Software Business Req: 240 & Engr 316	CS 460 Networks Req: 324	CS 473 Adv. Machine Learning 312, Math 215, Stat 121	CS 497R** Research	CS 574 Transformers for NLP Req: 270, 312	MATH 411 Numerical Methods Req: MATH 334
CS 345 Operating Sys Dsgn Req: 224 & 240	CS 412 Convex Optimization Req: 240	CS 462 Distributed Systems Req: 260, 324	CS 474 Deep Learning 312, Math 213, 215	CS 498R** Special Projects Req: 240	CS 575 Intro to Network Science Req: 312	MATH 431 Probability Theory Req: Math 213
CS 355 Interactive Graphic Req: 240, Math 213, 215	CS 450 Computer Vision Req: 312, 355, Math 313	CS 465 Security Req: 324			CS 580 Theory of Predictive Modeling	MATH 485 Cryptography Req: MATH 213



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

Software Engineering Emphasis

Fall 2023 Requirements

Major (74-76 Hours)

- Grades below C- are not allowed in major courses.
- Complete the following courses: CS 111, 202, 203, 204, 224, 235, 236, 240, 260, 312, 324, 329, 340, 404, 452, 480, 481
- Complete the following supporting courses: WRTG 316, Math 112, 213, 215, and Phscs 121
- Complete one of the following: Stat 121 or Stat 201
- Complete one of the following three courses: Math 113, Math 290 or STAT 220
- Complete 2 courses from the following courses: CS 256, 330, 345, 356, 453, 456, 460, 462, 465, 472, 486
- Complete 1 courses from the following courses: CS 252, 256, 330, 345, 355, 356, 393, 401R**, 405, 412, 450, 453, 455, 456, 460, 462, 465, 466, 470, 471, 472, 474, 479, 486, 493R**, 497R**, 498R**, 501R**, 513, 575, 580, EC EN 424, EC EN 425, IT&C 567, MATH 411, Math 431, MATH 485

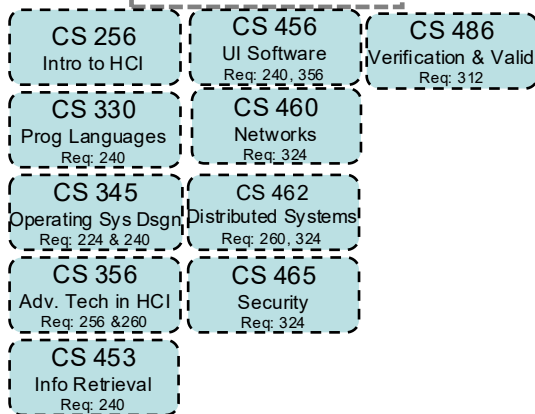
(If CS 401R, 493R, 497R, 498R, or 501R is chosen, it must be taken for three credit hours)

Elective Information:

Students must complete a total of 3 elective courses. 2 from Elective A and 1 from Elective B. Courses may not double count between Elective A and Elective B.

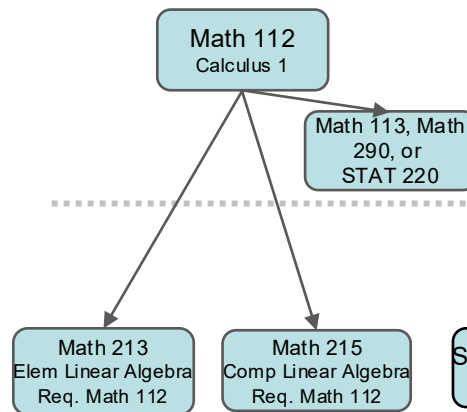
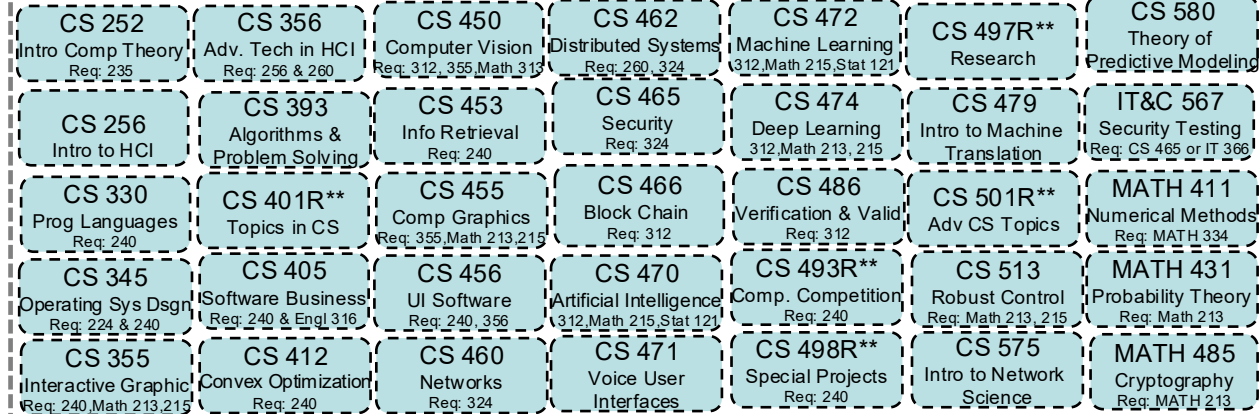
Guide only— please consult MyMap for full requirements.

Elective A (Choose 2 courses)

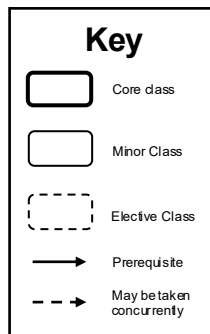


*Prerequisite: CS 240

Elective B (Choose 1 courses)



Stat 121 or 201
Statistics



Phscs 121
Newtonian Mechanics

Elective A or B

WRTG 316
Technical Writing

CS 404*
Ethics in Comp

Elective A or B

CS 111
Intro Programming

CS 202
SE Lab 1
Req. 142 or 111

CS 203
SE Lab 2
Req. 235 & 202

CS 204*
SE Lab 3
Req. 203 & 240

CS 235
Data Structures
Req. 142 or cs 111

CS 236
Discrete Structures
Req. 235

CS 240
Adv Programming
Req. 235

CS 312*
Algorithm Analysis
CS 240

CS 329*
Test, Analyze, Verify
Req. 240

CS SE 480*
Capstone 1
Req. 340, 329

CS SE 481
Capstone 2
Req. 480

CS 260
Req. 111 or 142

CS 224
Intro to Comp Sys
Req. 235

CS 340
Design and Testing
Req. 240

CS 324*
Sys Programming
CS 224

Elective A

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

Freshman

Sophomore

Junior

Senior

Semester 1
Semester 2
Semester 3
Semester 4
Semester 5
Semester 6
Semester 7
Semester 8

Software Engineering Emphasis

Fall 2022 Requirements

Major (74-76 Hours)

- Grades below C- are not allowed in major courses.
- Complete the following courses: CS 111, 202, 203, 204, 224, 235, 236, 240, 312, 324, 329, 340, 404, 452, 480, 481
- Complete the following supporting courses: WRTG 316, Math 112, 113, 213, 215, and Phscs 121
- Complete one of the following: Stat 121 or Stat 201
- Complete a total of 4 elective courses from the following three groups:
 - 2-4 courses **must** be from the following courses: CS 260, 330, 345, 356, 453, 456, 460, 462, 465, 486
 - Up to 2 courses from the following courses: CS 252, 260, 330, 345, 355, 356, 393, 401R**, 405, 412, 450, 453, 455, 456, 460, 462, 465, 470, 471, 472, 474, 486, 493R**, 497R**, 498R**, 501R**, 513, 580, EC EN 424, EC EN 425, IT&C 567, MATH 411, Math 431, MATH 485

(If CS 401R, 493R, 497R, 498R, or 501R is chosen, it must be taken for three credit hours)

Elective Information:

Students must complete a total of 4 elective courses. 2 from Elective A and 2 from Elective B. Courses may not double count for both Elective A and Elective B.

Guide only— please consult MyMap for full requirements.

Courses will not double count between requirements A and B

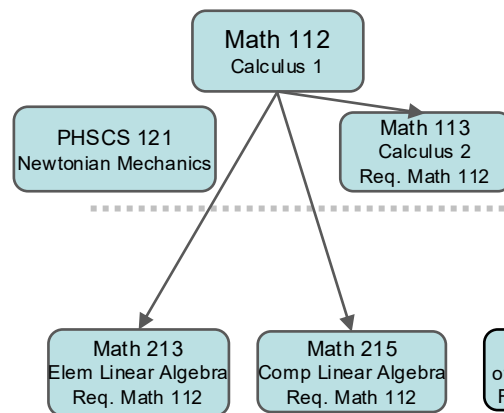
Elective A (Choose 2 courses)

CS 260 Web Programming Req: 142 or 111	CS 456 UI Software Req: 240, 356
CS 330 Prog Languages Req: 240	CS 460 Networks Req: 324
CS 345 Operating Sys Dsgn Req: 224 & 240	CS 462 Distributed Systems Req: 260, 324
CS 356 User Experience Req: 240	CS 465 Security Req: 324
CS 453 Info Retrieval Req: 240	CS 486 Verification & Valid Req: 312

Elective B (Choose 2 courses)

CS 252 Intro Comp Theory Req: 235	CS 356 User Experience Req: 240	CS 450 Computer Vision Req: 312, 355, Math 313	CS 462 Distributed Systems Req: 260, 324	CS 474 Deep Learning 312, Math 213, 215	CS 501R** Adv CS Topics	EC EN 425 Real Time Op Sys Req: EC EN 323 & 330
CS 260 Web Programming Req: 142	CS 393 Algorithms & Problem Solving	CS 453 Info Retrieval Req: 240	CS 465 Security Req: 324	CS 486 Verification & Valid Req: 312	CS 513 Robust Control Req: Math 213, 215	MATH 411 Numerical Methods Req: MATH 334
CS 330 Prog Languages Req: 240	CS 401R** Topics in CS	CS 455 Comp Graphics Req: 355, Math 213, 215	CS 470 Artificial Intelligence 312, Math 215, Stat 121	CS 493R** Comp. Competition Req: 240	CS 580 Theory of Predictive Modeling	MATH 431 Probability Theory Req: Math 213
CS 345 Operating Sys Dsgn Req: 224 & 240	CS 405 Software Business Req: 240 & Engl 316	CS 456 UI Software Req: 240, 356	CS 471 Voice User Interfaces	CS 497R** Research	IT&C 567 Security Testing Req: CS 465 or IT 366	MATH 485 Cryptography Req: MATH 213
CS 355 Interactive Graphics Req: 240, Math 213, 215	CS 412 Convex Optimization Req: 240	CS 460 Networks Req: 324	CS 472 Machine Learning 312, Math 215, Stat 121	CS 498R** Special Projects Req: 240	EC EN 424 Computer Systems Req: EC EN 323 & 330	

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

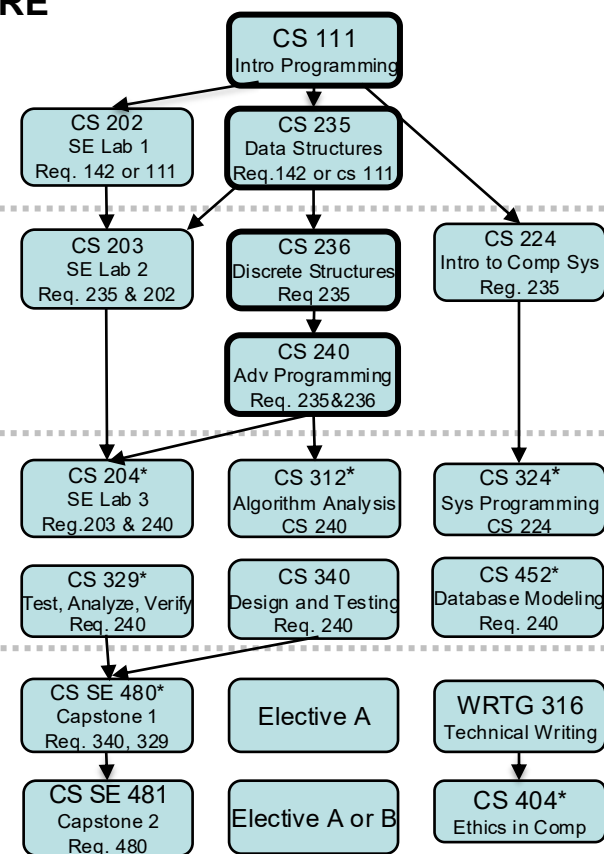


CS 260 or
other CS Elective
Req. 111 or 142

Stat 121 or 201
Statistics

Elective A or B

CORE



*Prerequisite: CS 240

Freshman
Sophomore
Junior
Senior

Semester 1
Semester 2
Semester 3
Semester 4
Semester 5
Semester 6
Semester 7
Semester 8