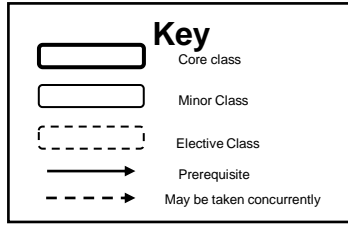


Data Science Emphasis

Fall 2022 Requirements

Major (74 Hours)

- Grades below C- are not allowed in major courses.
 - Complete the following courses: CS 111, 180, 224, 235, 236, 240, 312, 324, 404, 452, 472, 474
 - 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 one of the following: Stat 220, STAT 330 or Econ388
 - Complete a total of 5 elective courses from the follow 3 groups:
 - 1 course **must** be from the following courses: Stat 240, Stat 340, Stat 251, Econ 378, CS 412, Econ 388, Econ 398, Econ 588, Ling 581, Math 314, Math 413
 - 3 courses **must** be from the following courses: CS 252, 260, 329, 330, 340, 345, 355, 356, 393, 401R**, 450, 453, 455, 456, 460, 462, 465, 470, 471, 482, 483, 486, 497R**, 501R**, 501R** 513, 580
 - 1 additional course from a list that includes all classes from elective A and B.
- If a class is taken in A or B, it may not double count in C.
 - Students are strongly encouraged to take the DS capstone courses (CS 482 and 483) (If CS 401R, 497R, or 501R is chosen, it must be taken for three credit hours)



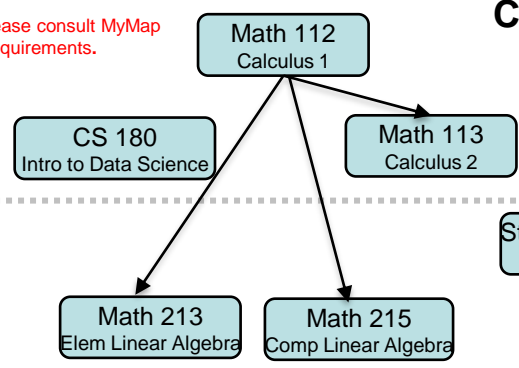
Elective B
Complete 3 courses)

Elective A
(Complete 1 courses)

CS 412 Linear Programming Req: 240	Math 314 Multi-variable Calculus Req: Math 113
Econ 378 Stats for Econ ECON 110, Math 112	Math 413 Adv. Linear Algebra Req: Math 213
Econ 388 Intro Econometrics Req: Econ 378, 380	Stat 240 Probability and Infer. 1 Stat 121, Math 112
Econ 488 Appl. Econometrics Req: Econ 388	Stat 251 Bayesian Stats CS 142, Math 113
Econ 588 Adv. Econometrics Req: Econ 388	Stat 340 Probability and Infer. 2 Stat 240, Math 113
Ling 581 NLP	**Must be taken for 3 hours to fill the requirement

CS 393 Algorithms & Problem Solving	CS 470 Intro to AI
CS 252 Intro Comp Theory Req: 235	CS 471 Voice User Interfaces
CS 260 Web Programming Req: 142 or 111	CS 482 DS Capstone 1 Req: 240
CS 329 Testing, Analysis, Verify Req: 240	CS 483 DS Capstone 2 Req: 482
CS 330 Prog Languages Req: 240	CS 486 Verification & Valid Req: 312
CS 340 Design & Testing Req: 240	CS 497R** Research
CS 345 Operating Sys Dsgn Req: 224 & 240	CS 501R** Adv CS Topics
CS 355 Interactive Graphic Req: 240, Math 213, 215	CS 513 Robust Control
CS 356 User Experience Req: 240	CS 580 Theory of Predictive Modeli
CS 401R** Topics in CS	CS 450 Computer Vision Req: 312, 355, Math 313
CS 450 Computer Vision Req: 312, 355, Math 313	CS 453 Info Retrieval Req: 240
CS 453 Info Retrieval Req: 240	CS 455 Comp Graphics Req: 355, Math 213, 215
CS 455 Comp Graphics Req: 355, Math 213, 215	CS 456 UI Software Req: 240, 356
CS 456 UI Software Req: 240, 356	CS 460 Networks Req: 324
CS 460 Networks Req: 324	CS 462 Distributed Systems Req: 260, 324
CS 462 Distributed Systems Req: 260, 324	CS 465 Security Req: 324
CS 465 Security Req: 324	CS 470 Artificial Intelligence 312, Math 215, Stat 121
CS 470 Artificial Intelligence 312, Math 215, Stat 121	CS 471 Voice User Interfaces
CS 471 Voice User Interfaces	CS 482 DS Capstone 1 Req: 240
CS 482 DS Capstone 1 Req: 240	CS 483 DS Capstone 2 Req: 240, 482
CS 483 DS Capstone 2 Req: 240, 482	Econ 378 Stats for Econ ECON 110, Math 112
Econ 378 Stats for Econ ECON 110, Math 112	Econ 388 Intro Econometrics Req: Econ 378, 380
Econ 388 Intro Econometrics Req: Econ 378, 380	Stat 240 Probability and Infer. 1 Stat 121, Math 112
Stat 240 Probability and Infer. 1 Stat 121, Math 112	Stat 251 Bayesian Stats CS 142, Math 113
Stat 251 Bayesian Stats CS 142, Math 113	Stat 340 Probability and Infer. 2 Stat 240, Math 113
Stat 340 Probability and Infer. 2 Stat 240, Math 113	

CS 252 Intro Comp Theory Req: 235	CS 393 Algorithms & Problem Solving	Elective C (Complete 1 course)		Econ 398 Adv. Econometrics Req: Econ 388
CS 260 Web Programming Req: 142	CS 401R** Topics in CS	CS 460 Networks Req: 324	CS 486 Verification & Valid Req: 312	Econ 588 Adv. Econometrics Req: Econ 388
CS 329 Testing, Analysis, Verify Req: 240	CS 412 Linear Programming Req: 240	CS 462 Distributed Systems Req: 260, 324	CS 497R** Research	Ling 581 NLP
CS 330 Prog Languages Req: 240	CS 450 Computer Vision Req: 312, 355, Math 313	CS 465 Security Req: 324	CS 501R** Adv CS Topics	Math 314 Multi-variable Calculus Req: Math 113
CS 340 Design & Testing Req: 240	CS 453 Info Retrieval Req: 240	CS 470 Artificial Intelligence 312, Math 215, Stat 121	CS 513 Robust Control	Math 413 Adv. Linear Algebra Req: Math 213
CS 345 Operating Sys Dsgn Req: 224 & 240	CS 455 Comp Graphics Req: 355, Math 213, 215	CS 471 Voice User Interfaces	CS 580 Theory of Predictive Modeling	Stat 240 Probability and Infer. 1 Stat 121, Math 112
CS 355 Interactive Graphic Req: 240, Math 213, 215	CS 456 UI Software Req: 240, 356	CS 482 DS Capstone 1 Req: 240	Econ 378 Stats for Econ ECON 110, Math 112	Stat 251 Bayesian Stats CS 142, Math 113
CS 356 User Experience Req: 240	CS 483 DS Capstone 2 Req: 240, 482	CS 486 Verification & Valid Req: 312	Econ 388 Intro Econometrics Req: Econ 378, 380	Stat 340 Probability and Infer. 2 Stat 240, Math 113



Stat 121 or 201
Statistics

Take one course
Stat 220, Stat 330,
or Econ 388

Phscs 121
Physics

CS 452
Database Modeling

CS 472
Machine Learning

Elective A

CS 474
Deep Learning

Elective B

WRTG 316
Technical Writing

Elective B

Elective B

Elective C

CS 404
Ethics in Comp

CS 111
Intro Programming

CS 235
Data Structures
Req. 111 or 142

CS 236
Discrete Structures
Req. 235

CS 240
Adv Programming
Req. CS 235 & 236

CS 312
Algorithm Analysis

CS 224
Intro to Comp Sys

CS 324
Sys Programming