## **Computer Science Major**

## **Area of Emphasis**

Students must complete requirements in one of the following areas of emphasis:

- Cybersecurity
- Software Engineering

## Cybersecurity

Supporting Courses (Non-CS classes)	Code	Title	Credits
MATH 202 Calculus and Analytic Geometry I MATH 260 Introductory Statistics MATH 320 Linear Algebra and Matrix Theory  Choose 1 from the following 3 COMM courses COMM 133 Fundamentals of Public Address or COMM 186 Fundamentals of Interpersonal Communication or COMM 237 Small Croup Communication Or COMM 237 Small Croup Communication Or COMM 239 Introduction to Computing & Internet Technologies COMP SCI 201 Introduction to Computing & Internet Technologies COMP SCI 203 Introduction to Python Programming COMP SCI 201 Database Design & Management COMP SCI 221 Database Design & Management COMP SCI 221 Introduction to 1T Operations COMP SCI 231 Introduction to 1T Operations COMP SCI 235 Digital Logic Fundamentals COMP SCI 253 Digital Logic Fundamentals COMP SCI 253 Logical Introduction to Software Design COMP SCI 292 Introduction to Mobile Platforms and Apps COMP SCI 293 Cloud Computing CS Advanced Courses COMP SCI 316 Advanced Software Design COMP SCI 351 Data Structures COMP SCI 353 Computer Architecture and Organization COMP SCI 351 Data Structures COMP SCI 451 Database Systems and Big Data Processing COMP SCI 452 Operating Systems Using Linux COMP SCI 465 Machine Learning Cybersecurity Emphasis Required & Electives Courses COMP SCI 461 Software Design COMP SCI 463 Information Assurance and Security COMP SCI 460 Capstone Essay in Computer Science Cybersecurity Elective Courses (Choose any two): COMP SCI 460 Capstone Essay in Computer Networks COMP SCI 461 Network Security COMP SCI 462 Network Security COMP SCI 463 Network Security COMP SCI 464 Networks COMP SCI 465 Network Security COMP SCI 460 Capstone Essay in Computer Networks COMP SCI 472 Network Security Introduction to Cryptography	Supporting Courses (Non-Courses)	CS classes)	18
MATH 260 Introductory Statistics Linear Algebra and Matrix Theory Choose I from the following 3 COMM courses COMM 133 Fundamentals of Public Address or COMM 166 Fundamentals of Public Address or COMM 237 Small Group Communication COMP SCI 201 Introduction to Computing & Internet Technologies COMP SCI 203 Introduction to Python Programming COMP SCI 203 Introduction to Python Programming COMP SCI 201 Database Design & Management COMP SCI 221 Database Design & Management COMP SCI 221 Database Design & Management COMP SCI 231 Introduction to 1T Operations COMP SCI 231 Introduction to 1T Operations COMP SCI 240 Discrete Mathematics COMP SCI 253 Digital Logic Fundamentals COMP SCI 253 Digital Logic Fundamentals COMP SCI 259 Introduction to Mobile Platforms and Apps COMP SCI 292 Introduction to Mobile Platforms and Apps COMP SCI 293 Cloud Computing CS Advanced Courses COMP SCI 316 Advanced Software Design COMP SCI 317 Advanced Software Design COMP SCI 319 Data Structures COMP SCI 311 Database Systems and Big Data Processing COMP SCI 451 Database Systems using Linux COMP SCI 464 Artificial Intelligence COMP SCI 465 Machine Learning Cybersecurity Emphasis Required & Electives Courses COMP SCI 361 Information Assurance and Security COMP SCI 361 Northware Security COMP SCI 361 Northware Security COMP SCI 461 Software Security COMP SCI 462 Apstroace Essay in Computer Science Cybersecurity Elective Courses (Choose any two): COMP SCI 490 Capstone Essay in Computer Networks COMP SCI 472 Network Security COMP SCI 472 Network Security COMP SCI 475 Introduction to Cryptography	ENGR 236	Technical Writing	
MATH 320 Linear Algebra and Matrix Theory  Choose 1 from the following 3 COMM courses  COMM 133 Fundamentals of Public Address or COMM 166 Fundamentals of Interpersonal Communication or COMM 237 Small Group Communication  CS Fundamental Courses  CS Fundamental Courses  COMP SCI 201 Introduction to Computing & Internet Technologies  COMP SCI 203 Introduction to Python Programming  COMP SCI 203 Introduction to Python Programming  COMP SCI 207 Programming in C  COMP SCI 221 Database Design & Management  COMP SCI 221 Introduction to IT Operations  COMP SCI 231 Introduction to IT Operations  COMP SCI 240 Discrete Mathematics  COMP SCI 253 Digital Logic Fundamentals  COMP SCI 256 Introduction to Software Design  COMP SCI 292 Introduction to Software Design  COMP SCI 293 Cloud Computing  CS Advanced Courses  COMP SCI 316 Advanced Software Design  COMP SCI 316 Advanced Software Design  COMP SCI 351 Data Structures  COMP SCI 451 Database Systems and Big Data Processing  COMP SCI 452 Operating Systems Using Linux  COMP SCI 454 Operating Systems Using Linux  COMP SCI 455 Machine Learning  Cybersecurity Emphasis Required & Electives Courses  CMP SCI 361 Information Assurance and Security  COMP SCI 461 Software Security  COMP SCI 461 Software Security  COMP SCI 462 Operating Systems Using Linux  COMP SCI 463 Software Security  COMP SCI 464 Artificial Intelligence  Cybersecurity Emphasis Required & Electives Courses  CMP SCI 361 North Sci 368 Data Communication and Computer Networks  COMP SCI 463 Data Communication and Computer Networks  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	MATH 202	Calculus and Analytic Geometry I	
Choose 1 from the following 3 COMM courses  COMM 133 Fundamentals of Public Address or COMM 136 Fundamentals of Interpersonal Communication or COMM 237 Small Group Communication  CCS Fundamental Courses  COMP SCI 201 Introduction to Computing & Internet Technologies  COMP SCI 203 Introduction to Python Programming  COMP SCI 203 Introduction to Python Programming  COMP SCI 201 Database Design & Management  COMP SCI 221 Database Design & Management  COMP SCI 221 Introduction to 1T Operations  COMP SCI 233 Introduction to 1T Operations  COMP SCI 240 Discrete Mathematics  COMP SCI 253 Digital Logic Fundamentals  COMP SCI 256 Introduction to Software Design  COMP SCI 292 Introduction to Mobile Platforms and Apps  COMP SCI 292 Computing  CS Advanced Courses  CS Advanced Courses  COMP SCI 351 Data Structures  COMP SCI 451 Database Systems and Big Data Processing  COMP SCI 452 Operating Systems Using Linux  COMP SCI 454 Artificial Intelligence  COMP SCI 455 Potersecurity Emphasis Required & Electives Courses  CS Cybersecurity Emphasis Required & Electives Courses  CMP SCI 361 Information Assurance and Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 472 Network Security  Introduction to Cryptography	MATH 260	Introductory Statistics	
COMM 133 Fundamentals of Public Address or COMM 166 Fundamentals of Interpersonal Communication or COMM 167 Small Group Communication CS Fundamental Courses 30 COMP SCI 201 Introduction to Computing & Internet Technologies COMP SCI 203 Introduction to Python Programming COMP SCI 207 Programming in C COMP SCI 207 Programming in C COMP SCI 221 Database Design & Management COMP SCI 231 Introduction to IT Operations COMP SCI 231 Introduction to IT Operations COMP SCI 231 Introduction to IT Operations COMP SCI 233 Digital Logic Fundamentals COMP SCI 258 Digital Logic Fundamentals COMP SCI 259 Introduction to Software Design COMP SCI 250 Introduction to Software Design COMP SCI 250 Introduction to Mobile Platforms and Apps COMP SCI 250 Computing CS Advanced Courses COMP SCI 316 Advanced Software Design COMP SCI 316 Advanced Software Design COMP SCI 317 Advanced Object-Oriented Design COMP SCI 351 Data Structures COMP SCI 351 Data Structures COMP SCI 352 Operating Systems and Big Data Processing COMP SCI 452 Operating Systems Using Linux COMP SCI 454 Artificial Intelligence COMP SCI 455 Machine Learning Cybersecurity Emphasis Required & Electives Courses COMP SCI 361 Information Assurance and Security COMP SCI 361 Software Security COMP SCI 363 Data Communication and Computer Networks COMP SCI 458 Data Communication and Computer Networks COMP SCI 459 Sepatone Essay in Computer Science Cybersecurity Elective Courses (Choose any two): COMP SCI 457 Network Security COMP SCI 457 Network Security	MATH 320	Linear Algebra and Matrix Theory	
or COMM 166 Fundamentals of Interpersonal Communication or COMM 237 Small Group Communication  CS Fundamental Courses  COMP SCI 201 Introduction to Computing & Internet Technologies  COMP SCI 203 Introduction to Python Programming  COMP SCI 207 Programming in C  COMP SCI 207 Programming in C  COMP SCI 221 Database Design & Management  COMP SCI 221 Introduction to IT Operations  COMP SCI 230 Digital Logic Fundamentals  COMP SCI 253 Digital Logic Fundamentals  COMP SCI 256 Introduction to Software Design  COMP SCI 252 Introduction to Mobile Platforms and Apps  COMP SCI 253 Cloud Computing  CS Advanced Courses  COMP SCI 351 Data Structures  COMP SCI 352 Computer Architecture and Organization  COMP SCI 353 Computer Architecture and Processing  COMP SCI 451 Database Systems and Big Data Processing  COMP SCI 452 Operating Systems Using Linux  COMP SCI 455 Machine Learning  COMP SCI 456 Machine Learning  Cybersecurity Emphasis Required & Electives Courses  CYBERScurity Required Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 361 Information Assurance and Security  COMP SCI 471 Software Security  COMP SCI 472 Network Security  COMP SCI 472 Network Security  Introduction to Cryptography	Choose 1 from the followin	g 3 COMM courses	
CS Fundamental Courses  COMP SCI 201 Introduction to Computing & Internet Technologies  COMP SCI 203 Introduction to Python Programming  COMP SCI 207 Programming in C  COMP SCI 207 Programming in C  COMP SCI 221 Database Design & Management  COMP SCI 221 Introduction to IT Operations  COMP SCI 231 Introduction to IT Operations  COMP SCI 240 Discrete Mathematics  COMP SCI 253 Digital Logic Fundamentals  COMP SCI 256 Introduction to Software Design  COMP SCI 292 Introduction to Mobile Platforms and Apps  COMP SCI 293 Cloud Computing  CS Advanced Courses  CA Advanced Courses  COMP SCI 316 Advanced Software Design  COMP SCI 351 Data Structures  COMP SCI 351 Data Structures  COMP SCI 351 Data Structures  COMP SCI 351 Database Systems and Big Data Processing  COMP SCI 351 Database Systems and Big Data Processing  COMP SCI 451 Database Systems and Big Data Processing  COMP SCI 464 Artificial Intelligence  COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 491 Software Security  COMP SCI 491 Software Security  COMP SCI 491 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 495 Data Communication and Computer Networks  COMP SCI 475 Introduction to Cryptography	COMM 133	Fundamentals of Public Address	
CS Fundamental Courses  COMP SCI 201 Introduction to Computing & Internet Technologies  COMP SCI 203 Introduction to Python Programming  COMP SCI 207 Programming in C  COMP SCI 221 Database Design & Management  COMP SCI 221 Introduction to IT Operations  COMP SCI 231 Introduction to IT Operations  COMP SCI 240 Discrete Mathematics  COMP SCI 253 Dijital Logic Fundamentals  COMP SCI 256 Introduction to Software Design  COMP SCI 292 Introduction to Mobile Platforms and Apps  COMP SCI 293 Cloud Computing  CS Advanced Courses  COMP SCI 316 Advanced Software Design  COMP SCI 311 Data Structures  COMP SCI 351 Database Systems and Big Data Processing  COMP SCI 451 Database Systems and Big Data Processing  COMP SCI 452 Operating Systems Using Linux  COMP SCI 464 Artificial Intelligence  COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses  CYBERSCURITY Required Courses  COMP SCI 491 Software Security  COMP SCI 491 Software Security  COMP SCI 492 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 475 Introduction to Cryptography	or COMM 166	Fundamentals of Interpersonal Communication	
COMP SCI 201 Introduction to Computing & Internet Technologies  COMP SCI 203 Introduction to Python Programming  COMP SCI 207 Programming in C  COMP SCI 221 Database Design & Management  COMP SCI 231 Introduction to IT Operations  COMP SCI 231 Introduction to IT Operations  COMP SCI 240 Discrete Mathematics  COMP SCI 253 Digital Logic Fundamentals  COMP SCI 256 Introduction to Software Design  COMP SCI 292 Introduction to Mobile Platforms and Apps  COMP SCI 293 Cloud Computing  CS Advanced Courses  CAVANCED Advanced Software Design  COMP SCI 351 Data Structures  COMP SCI 351 Data Structure and Organization  COMP SCI 351 Database Systems and Big Data Processing  COMP SCI 452 Operating Systems Using Linux  COMP SCI 454 Database Systems and Big Data Processing  COMP SCI 464 Artificial Intelligence  COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 471 Software Security  COMP SCI 490 Capstone Essay in Computer Networks  COMP SCI 472 Network Security  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	or COMM 237	Small Group Communication	
COMP SCI 203 Introduction to Python Programming COMP SCI 207 Programming in C COMP SCI 221 Database Design & Management COMP SCI 231 Introduction to IT Operations COMP SCI 231 Introduction to IT Operations COMP SCI 240 Discrete Mathematics COMP SCI 253 Digital Logic Fundamentals COMP SCI 256 Introduction to Software Design COMP SCI 292 Introduction to Mobile Platforms and Apps COMP SCI 293 Cloud Computing  CS Advanced Courses 24 COMP SCI 316 Advanced Software Design COMP SCI 316 Advanced Software Design COMP SCI 316 Data Structures COMP SCI 311 Data Structures COMP SCI 351 Data Structure and Organization COMP SCI 351 Data Structure and Organization COMP SCI 351 Database Systems and Big Data Processing COMP SCI 451 Database Systems and Big Data Processing COMP SCI 452 Operating Systems Using Linux COMP SCI 464 Artificial Intelligence COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses 15 Cybersecurity Required Courses COMP SCI 361 Information Assurance and Security COMP SCI 471 Software Security COMP SCI 490 Capstone Essay in Computer Networks COMP SCI 472 Network Security COMP SCI 475 Introduction to Cryptography	<b>CS Fundamental Courses</b>		30
COMP SCI 207 Programming in C COMP SCI 221 Database Design & Management COMP SCI 231 Introduction to IT Operations COMP SCI 240 Discrete Mathematics COMP SCI 253 Digital Logic Fundamentals COMP SCI 256 Introduction to Software Design COMP SCI 292 Introduction to Mobile Platforms and Apps COMP SCI 293 Cloud Computing  CS Advanced Courses COMP SCI 331 Advanced Software Design COMP SCI 351 Data Structures COMP SCI 351 Data Structures COMP SCI 353 Computer Architecture and Organization COMP SCI 351 Data Structures COMP SCI 451 Database Systems and Big Data Processing COMP SCI 451 Database Systems and Big Data Processing COMP SCI 452 Operating Systems Using Linux COMP SCI 464 Artificial Intelligence COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses  COMP SCI 361 Information Assurance and Security COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two): COMP SCI 358 Data Communication and Computer Networks COMP SCI 472 Network Security COMP SCI 475 Introduction to Cryptography	COMP SCI 201	Introduction to Computing & Internet Technologies	
COMP SCI 221 Database Design & Management  COMP SCI 231 Introduction to IT Operations  COMP SCI 240 Discrete Mathematics  COMP SCI 253 Digital Logic Fundamentals  COMP SCI 256 Introduction to Software Design  COMP SCI 292 Introduction to Mobile Platforms and Apps  COMP SCI 293 Cloud Computing  CS Advanced Courses  COMP SCI 316 Advanced Software Design  COMP SCI 316 Advanced Software Design  COMP SCI 311 Data Structures  COMP SCI 353 Computer Architecture and Organization  COMP SCI 371 Advanced Object-Oriented Design  COMP SCI 371 Database Systems and Big Data Processing  COMP SCI 451 Database Systems and Big Data Processing  COMP SCI 452 Operating Systems Using Linux  COMP SCI 464 Artificial Intelligence  COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 361 Information Assurance and Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	COMP SCI 203	Introduction to Python Programming	
COMP SCI 231 Introduction to IT Operations  COMP SCI 240 Discrete Mathematics  COMP SCI 253 Digital Logic Fundamentals  COMP SCI 256 Introduction to Software Design  COMP SCI 292 Introduction to Mobile Platforms and Apps  COMP SCI 293 Cloud Computing  CS Advanced Courses 24  COMP SCI 316 Advanced Software Design  COMP SCI 351 Data Structures  COMP SCI 353 Computer Architecture and Organization  COMP SCI 351 Data Survetures  COMP SCI 371 Advanced Object-Oriented Design  COMP SCI 371 Database Systems and Big Data Processing  COMP SCI 451 Database Systems and Big Data Processing  COMP SCI 452 Operating Systems Using Linux  COMP SCI 464 Artificial Intelligence  COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 361 Information Assurance and Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	COMP SCI 207	Programming in C	
COMP SCI 240 Discrete Mathematics COMP SCI 253 Digital Logic Fundamentals COMP SCI 256 Introduction to Software Design COMP SCI 292 Introduction to Mobile Platforms and Apps COMP SCI 293 Cloud Computing  CS Advanced Courses COMP SCI 316 Advanced Software Design COMP SCI 316 Advanced Software Design COMP SCI 351 Data Structures COMP SCI 353 Computer Architecture and Organization COMP SCI 371 Advanced Object-Oriented Design COMP SCI 371 Advanced Object-Oriented Design COMP SCI 451 Database Systems and Big Data Processing COMP SCI 452 Operating Systems Using Linux COMP SCI 464 Artificial Intelligence COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses COMP SCI 361 Information Assurance and Security COMP SCI 471 Software Security COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two): COMP SCI 358 Data Communication and Computer Networks COMP SCI 472 Network Security Introduction to Cryptography	COMP SCI 221	Database Design & Management	
COMP SCI 253 Digital Logic Fundamentals  COMP SCI 256 Introduction to Software Design  COMP SCI 292 Introduction to Mobile Platforms and Apps  COMP SCI 293 Cloud Computing  CS Advanced Courses 24  COMP SCI 316 Advanced Software Design  COMP SCI 351 Data Structures  COMP SCI 353 Computer Architecture and Organization  COMP SCI 371 Advanced Object-Oriented Design  COMP SCI 371 Data base Systems and Big Data Processing  COMP SCI 451 Database Systems and Big Data Processing  COMP SCI 452 Operating Systems Using Linux  COMP SCI 464 Artificial Intelligence  COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses 15  Cybersecurity Required Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 471 Software Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 472 Network Security  COMP SCI 472 Network Security  Introduction to Cryptography	COMP SCI 231	Introduction to IT Operations	
COMP SCI 256 Introduction to Software Design COMP SCI 292 Introduction to Mobile Platforms and Apps COMP SCI 293 Cloud Computing  CS Advanced Courses 24 COMP SCI 316 Advanced Software Design COMP SCI 351 Data Structures COMP SCI 353 Computer Architecture and Organization COMP SCI 351 Advanced Object-Oriented Design COMP SCI 371 Advanced Object-Oriented Design COMP SCI 451 Database Systems and Big Data Processing COMP SCI 452 Operating Systems Using Linux COMP SCI 464 Artificial Intelligence COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses 15 Cybersecurity Required Courses COMP SCI 361 Information Assurance and Security COMP SCI 471 Software Security COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two): COMP SCI 358 Data Communication and Computer Networks COMP SCI 472 Network Security Introduction to Cryptography	COMP SCI 240	Discrete Mathematics	
COMP SCI 292 Introduction to Mobile Platforms and Apps COMP SCI 293 Cloud Computing  CS Advanced Courses 24  COMP SCI 316 Advanced Software Design COMP SCI 351 Data Structures COMP SCI 353 Computer Architecture and Organization COMP SCI 353 Computer Architecture and Organization COMP SCI 371 Advanced Object-Oriented Design COMP SCI 451 Database Systems and Big Data Processing COMP SCI 452 Operating Systems Using Linux COMP SCI 464 Artificial Intelligence COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses  COMP SCI 361 Information Assurance and Security COMP SCI 471 Software Security COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 358 Data Communication and Computer Networks COMP SCI 472 Network Security Introduction to Cryptography	COMP SCI 253	Digital Logic Fundamentals	
COMP SCI 293 Cloud Computing  CS Advanced Courses 24  COMP SCI 316 Advanced Software Design  COMP SCI 351 Data Structures  COMP SCI 353 Computer Architecture and Organization  COMP SCI 371 Advanced Object-Oriented Design  COMP SCI 371 Database Systems and Big Data Processing  COMP SCI 451 Database Systems using Linux  COMP SCI 452 Operating Systems Using Linux  COMP SCI 464 Artificial Intelligence  COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses 15  Cybersecurity Required Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 471 Software Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 358 Data Communication and Computer Networks  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	COMP SCI 256	Introduction to Software Design	
CS Advanced Courses  COMP SCI 316 Advanced Software Design  COMP SCI 351 Data Structures  COMP SCI 353 Computer Architecture and Organization  COMP SCI 371 Advanced Object-Oriented Design  COMP SCI 371 Database Systems and Big Data Processing  COMP SCI 451 Database Systems Using Linux  COMP SCI 452 Operating Systems Using Linux  COMP SCI 464 Artificial Intelligence  COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 471 Software Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	COMP SCI 292	Introduction to Mobile Platforms and Apps	
COMP SCI 316 Advanced Software Design  COMP SCI 351 Data Structures  COMP SCI 353 Computer Architecture and Organization  COMP SCI 371 Advanced Object-Oriented Design  COMP SCI 451 Database Systems and Big Data Processing  COMP SCI 452 Operating Systems Using Linux  COMP SCI 464 Artificial Intelligence  COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses 15  Cybersecurity Required Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 471 Software Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 358 Data Communication and Computer Networks  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	COMP SCI 293	Cloud Computing	
COMP SCI 351 Data Structures  COMP SCI 353 Computer Architecture and Organization  COMP SCI 371 Advanced Object-Oriented Design  COMP SCI 451 Database Systems and Big Data Processing  COMP SCI 452 Operating Systems Using Linux  COMP SCI 464 Artificial Intelligence  COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses 15  Cybersecurity Required Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 471 Software Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 358 Data Communication and Computer Networks  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	CS Advanced Courses		24
COMP SCI 353 Computer Architecture and Organization  COMP SCI 371 Advanced Object-Oriented Design  COMP SCI 451 Database Systems and Big Data Processing  COMP SCI 452 Operating Systems Using Linux  COMP SCI 464 Artificial Intelligence  COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses 15  Cybersecurity Required Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 471 Software Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 358 Data Communication and Computer Networks  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	COMP SCI 316	Advanced Software Design	
COMP SCI 371 Advanced Object-Oriented Design  COMP SCI 451 Database Systems and Big Data Processing  COMP SCI 452 Operating Systems Using Linux  COMP SCI 464 Artificial Intelligence  COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses 15  Cybersecurity Required Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 471 Software Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 358 Data Communication and Computer Networks  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	COMP SCI 351	Data Structures	
COMP SCI 451 Database Systems and Big Data Processing COMP SCI 452 Operating Systems Using Linux  COMP SCI 464 Artificial Intelligence COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses 15  Cybersecurity Required Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 471 Software Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 358 Data Communication and Computer Networks  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	COMP SCI 353	Computer Architecture and Organization	
COMP SCI 452 Operating Systems Using Linux  COMP SCI 464 Artificial Intelligence COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses 15  Cybersecurity Required Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 471 Software Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 358 Data Communication and Computer Networks  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	COMP SCI 371	Advanced Object-Oriented Design	
COMP SCI 464 Artificial Intelligence COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses 15  Cybersecurity Required Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 471 Software Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 358 Data Communication and Computer Networks  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	COMP SCI 451	Database Systems and Big Data Processing	
COMP SCI 465 Machine Learning  Cybersecurity Emphasis Required & Electives Courses 15  Cybersecurity Required Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 471 Software Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 358 Data Communication and Computer Networks  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	COMP SCI 452	Operating Systems Using Linux	
Cybersecurity Emphasis Required & Electives Courses  Cybersecurity Required Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 471 Software Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 358 Data Communication and Computer Networks  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	COMP SCI 464	Artificial Intelligence	
Cybersecurity Required Courses  COMP SCI 361 Information Assurance and Security  COMP SCI 471 Software Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 358 Data Communication and Computer Networks  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	COMP SCI 465	Machine Learning	
COMP SCI 361 Information Assurance and Security  COMP SCI 471 Software Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 358 Data Communication and Computer Networks  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	Cybersecurity Emphasis Re	equired & Electives Courses	15
COMP SCI 471 Software Security  COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 358 Data Communication and Computer Networks  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	Cybersecurity Required Co	purses	
COMP SCI 490 Capstone Essay in Computer Science  Cybersecurity Elective Courses (Choose any two):  COMP SCI 358 Data Communication and Computer Networks  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	COMP SCI 361	Information Assurance and Security	
Cybersecurity Elective Courses (Choose any two):  COMP SCI 358 Data Communication and Computer Networks  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	COMP SCI 471	Software Security	
COMP SCI 358 Data Communication and Computer Networks  COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	COMP SCI 490	Capstone Essay in Computer Science	
COMP SCI 472 Network Security  COMP SCI 475 Introduction to Cryptography	Cybersecurity Elective Cou	irses (Choose any two):	
COMP SCI 475 Introduction to Cryptography	COMP SCI 358	Data Communication and Computer Networks	
71 0 1 7	COMP SCI 472	Network Security	
COMP SCI 497 Internship	COMP SCI 475	Introduction to Cryptography	
	COMP SCI 497	Internship	

Total Credits 87

## **Software Engineering**

Code	Title	Credits
Supporting Courses (Non-Courses)	CS classes)	18
ENGR 236	Technical Writing	
MATH 202	Calculus and Analytic Geometry I	
MATH 260	Introductory Statistics	
MATH 320	Linear Algebra and Matrix Theory	
Choose 1 from the following	g 3 COMM courses	
COMM 133	Fundamentals of Public Address	
or COMM 166	Fundamentals of Interpersonal Communication	
or COMM 237	Small Group Communication	
<b>CS Fundamental Courses</b>		30
COMP SCI 201	Introduction to Computing & Internet Technologies	
COMP SCI 203	Introduction to Python Programming	
COMP SCI 207	Programming in C	
COMP SCI 221	Database Design & Management	
COMP SCI 231	Introduction to IT Operations	
COMP SCI 240	Discrete Mathematics	
COMP SCI 253	Digital Logic Fundamentals	
COMP SCI 256	Introduction to Software Design	
COMP SCI 292	Introduction to Mobile Platforms and Apps	
COMP SCI 293	Cloud Computing	
<b>CS Advanced Courses</b>		24
COMP SCI 316	Advanced Software Design	
COMP SCI 351	Data Structures	
COMP SCI 353	Computer Architecture and Organization	
COMP SCI 371	Advanced Object-Oriented Design	
COMP SCI 451	Database Systems and Big Data Processing	
COMP SCI 452	Operating Systems Using Linux	
COMP SCI 464	Artificial Intelligence	
COMP SCI 465	Machine Learning	
Software Engineering Emp	hasis Required & Electives Courses	15
Software Engineering Requ	uired Courses	
COMP SCI 357	Theory of Programming Languages	
COMP SCI 372	Software Engineering	
COMP SCI 450	Theory of Algorithms	
Software Engineering Elect	tive Course (Choose any two)	
COMP SCI 339	Web Programming	
COMP SCI 340	Numerical Methods for Computer Science	
COMP SCI 368	Compilers	
COMP SCI 497	Internship	
Total Credits		87