Curriculum - Computer Science (Cybersecurity), BS

Catalog Year: 2026 - 2027 **General Studies Gold**

Degree: Bachelor of Science, BS

College/School: Ira A. Fulton Schools of Engineering

Plan Code: ESCSEIBS

Minimum credit hours: 120

Upper division minimum credit hours: 54

Requirement	Minimum Grade	Credit Hours
Some ASU Online courses are only offered in specific sessions. Please see advising for course planning.		
Please see our degree requirements website for links to our flowcharts and our most up-to-date course lists. https://scai.engineering.asu.edu/computer-science-bs/concentrations/		

Computer Science, BS Lower Division Core Requirements

CSE 110 Principles of Programming	C	3
CSE 205 Object-Oriented Programming and Data Structures	C	3
CSE 230 Computer Organization and Assembly Language Programming	C	3
CSE 240 Introduction to Programming Languages	C	3
EEE 120 Digital Design Fundamentals	C	3
FSE 100 Introduction to Engineering	C	2

Computer Science, BS Upper Division Core Requirements

Requirement	Minimum Grade	Credit Hours
CSE 300 Ethics for the Information Age (HUAD)	C	3
CSE 310 Data Structures and Algorithms	C	3
CSE 330 Operating Systems	C	3
CSE 340 Principles of Programming Languages	C	3
CSE 355 Introduction to Theoretical Computer Science	C	3
CSE 360 Introduction to Software Engineering	C	3
CSE 485 Computer Science Capstone Project I	C	3
CSE 486 Computer Science Capstone Project II	C	3
IEE 380 Probability and Statistics for Engineering Problem Solving (QTRS)	C	3
MAT 343 Applied Linear Algebra	C	3

Computer Science (Cybersecurity) Concentration Requirements

Upper Division Cybersecurity Focus Courses	C	6
CSE 466 Computer Systems Security		
CSE 467 Data and Information Security		
CSE 468 Computer Network Security		
CSE 469 Computer and Network Forensics		
CSE 494 Topic: Artificial Intelligence for Cyber Security		
Upper Division Cybersecurity Electives	C	6
CSE 445 Distributed Software Development		
CSE 460 Software Analysis and Design		
CSE 463 Introduction to Human Computer Interaction		

Requirement	Minimum Grade	Credit Hours
CSE 464 Software Quality Assurance and Testing		
CSE 466 Computer Systems Security		
CSE 467 Data and Information Security		
CSE 468 Computer Network Security		
CSE 469 Computer and Network Forensics		
CSE 471 Introduction to Artificial Intelligence		
CSE 494 Topic: Artificial Intelligence for Cyber Security		

Computer Science Electives

CSE 365 Information Assurance	C	3
CSE 412 Database Management OR CSE 434 Computer Networks OR CSE 445 Distributed Software Development OR CSE 471 Introduction to Artificial Intelligence OR CSE 475 Foundations of Machine Learning	C	3
Upper Division Technical Electives	C	6
AEE 415 Vibration Analysis		
AEE 426 Design of Aerospace Structures		
AEE 462 Space Vehicle Dynamics and Control		
AEE 463 Aircraft Propulsion		
AEE 465 Rocket Propulsion		
AEE 468 Aircraft Systems Design		
AEE 471 Computational Fluid Dynamics		
AME 430 Mac Development for Media Arts		

Requirement	Minimum Grade	Credit Hours
AME 435 Mobile Development		
BCH 361 Principles of Biochemistry		
BCH 461 General Biochemistry I		
BCH 462 General Biochemistry II		
BIO 340 General Genetics		
BIO 343 Genetic Engineering and Society		
BIO 345 Evolution		
BME 350 Signals and Systems for Bioengineers		
BME 413 Biomedical Instrumentation		
BME 416 Advanced Biomechanics		
BME 494 Topic: Applied Computational Behavioral Science		
CEE 412 Pavement Analysis and Design		
CEE 432 Developing Software for Engineering Applications		
CEE 440 Hydrology		
CEE 441 Water Resources Engineering		
CEE 452 Foundations		
CEE 462 Unit Operations in Environmental Engineering		
CEE 466 Urban Water System Design		
CEE 467 Environmental Health Microbiology		
CEE 474 Transportation Systems Planning		
CEE 475 Highway Geometric Design		
CEE 481 Civil Engineering Project Management		
CEE 483 Highway Materials, Construction, and Quality		

Requirement	Minimum Grade	Credit Hours
CEE 486 Integrated Civil Engineering Design		
CHE 342 Introduction to Applied Chemical Thermodynamics		
CHE 432 Principles of Chemical Engineering Design		
CHE 442 Introduction to Chemical Reactor Design		
CHE 461 Process Dynamic Control (QTRS)		
CHE 462 Process Design		
CHE 469 Air Quality Engineering		
CHE 475 Biochemical Engineering		
CIS 415 Big Data and AI in Business		
CPI 311 Game Engine Development		
CPI 350 Evaluation of Informatics Systems		
CPI 360 Decision Making and Problem Solving		
CPI 411 Graphics for Games		
CPI 460 Intelligent Interactive Instructional Systems		
CPI 462 Design for Learning in Virtual Worlds		
CSE 325 Embedded Microprocessor Systems		
CSE 335 Principles of Mobile Application Development		
CSE 484 Internship		
DAT 300 Mathematical Tools for Data Science		
DAT 301 Exploring Data in R and Python		
DAT 401 Statistical Modeling and Inference for Data Science		
DAT 402 Machine Learning for Data Science		
EEE 304 Signals and Systems II		

Requirement	Minimum Grade	Credit Hours
EEE 333 Hardware Design Languages and Programmable Logic		
EEE 335 Analog and Digital Circuits		
EEE 350 Random Signal Analysis (QTRS)		
EEE 360 Energy Systems and Power Electronics		
EEE 404 Real-Time DSP Systems		
EEE 407 Digital Signal Processing		
EEE 425 Digital Systems and Circuits		
EEE 433 Analog Integrated Circuits		
EEE 434 Quantum Mechanics for Engineers		
EEE 435 Fundamentals of CMOS and MEMS		
EEE 436 Fundamentals of Solid-State Devices		
EEE 437 Optoelectronics		
EEE 439 Semiconductor Facilities and Cleanroom Practices		
EEE 443 Antennas for Wireless Communications		
EEE 445 Microwaves		
EEE 448 Fiber Optics		
EEE 455 Communication Systems		
EEE 455 Communication Systems		
EEE 459 Communication Networks		
EEE 460 Nuclear Power Engineering		
EEE 463 Electrical Power Plants		
EEE 470 Electric Power Devices		
EEE 471 Power System Analysis		

Requirement	Minimum Grade	Credit Hours
EEE 473 Electrical Machinery		
EEE 480 Feedback Systems		
EEE 481 Computer-Controlled Systems		
FSE 301 Entrepreneurship and Value Creation		
FSE 404 EPICS Gold: EPICS in Action		
IEE 376 Operations Research Deterministic Techniques/Applications		
IEE 381 Lean Six Sigma Methodology		
IEE 385 Engineering Statistics: Probability		
IEE 412 Introduction to Financial Engineering		
IEE 426 Operations Research in Healthcare		
IEE 431 Engineering Administration		
IEE 456 Introduction to Systems Engineering		
IEE 458 Project Management		
IEE 461 Production Control		
IEE 470 Stochastic Operations Research		
IEE 474 Quality Control		
IEE 475 Simulating Stochastic Systems (QTRS)		
MAE 341 Mechanism Analysis and Design		
MAE 404 Finite Elements in Engineering		
MAE 417 System Dynamics and Control II		
MAE 436 Combustion		
MAE 455 Polymers and Composites		

Requirement	Minimum Grade	Credit Hours
MSE 335 Materials Kinetics		
MEE 351 Manufacturing Processes		
MEE 434 Internal Combustion Engines		
MEE 446 Energy Systems Design II		
MSE 415 Mathematical and Computer Methods in Materials		
PHY 302 Mathematical Methods in Physics II		
PHY 361 Introductory Modern Physics		
PHY 462 Particle and Nuclear Physics		
SER 416 Software Enterprise: Project and Process Management		
SER 421 Web-Based Applications		
SER 422 Web Application Programming		
SER 423 Mobile Systems		
STP 421 Probability		
STP 425 Stochastic Processes		
STP 427 Mathematical Statistics		
STP 429 Applied Regression (QTRS)		
400-Level CSE Elective		

Computer Science (Cybersecurity) Major GPA

Check: Minimum 2.0 Major GPA

Computer Science, BS Mathematics Requirements

MAT 243 Discrete Mathematical Structures	C	3
MAT 265 Calculus for Engineers I (MATH) OR MAT 270 Calculus with Analytic Geometry I (MATH)	C	3 - 4
MAT 266 Calculus for Engineers II (MATH) OR MAT 271 Calculus with Analytic Geometry II (MATH)	C	3 - 4
MAT 267 Calculus for Engineers III (MATH) OR CSE 259 Logic in Computer Science OR MAT 272 Calculus with Analytic Geometry III (MATH)	C	3 - 4

Computer Science (Lab Science)

Lab Science 11

Applied Biological Science:

ABS 130 Introduction to Environmental Science (SCIT)

Astronomy:

AST 111 Introduction to Solar Systems Astronomy (SCIT)

AST 112 Introduction to Stars, Galaxies, and Cosmology (SCIT)

Biology:

BIO 100 The Living World (SCIT)

BIO 130 Introduction to Environmental Science (SCIT)

BIO 160 Introduction to Anatomy and Physiology (SCIT)

BIO 151 Biological Thinking

BIO 181 General Biology I (SCIT)

BIO 182 General Biology II (SCIT)

BIO 201 Human Anatomy and Physiology I (SCIT)

BIO 202 Human Anatomy and Physiology II (SCIT)

Chemistry:

CHM 101 Introductory Chemistry (SCIT)

CHM 107 Chemistry and Society (SCIT) AND CHM 108 Chemistry and Society Laboratory (SCIT)

CHM 113 General Chemistry I (SCIT)

CHM 114 General Chemistry for Engineers (SCIT)

CHM 116 General Chemistry II (SCIT)

CHM 111 General Chemistry Laboratory for Majors I (SCIT) AND CHM 117 General Chemistry for Majors I (SCIT)

CHM 112 General Chemistry Laboratory for Majors II (SCIT) AND CHM 118 General Chemistry for Majors II (SCIT)

CHM 231 Elementary Organic Chemistry (SCIT)

CHM 235 Elementary Organic Chemistry Laboratory (SCIT)

Environmental Science:

ENV 130 Introduction to Environmental Science (SCIT)

Forensics:

FOR 105 Physical Evidence and the Crime Scene (SCIT)

FOR 106 Biology Behind the Crime Scene (SCIT)

Geological Science:

GLG 108 Water Planet (SCIT)

GLG 101 Introduction to Geology I (Physical) (SCIT) AND GLG 103 Introduction to Geology I: Laboratory (SCIT)

GLG 102 Introduction to Geology II (Historical) (SCIT) AND GLG 104 Introduction to Geology II: Laboratory (SCIT)

GLG 110 Dangerous World (SCIT) AND GLG 111 Dangerous World Laboratory (SCIT)

Physical Geography:

GPH 211 Landform Processes (SCIT)

GPH 111 Introduction to Physical Geography (SCIT) AND GPH 112 Introduction to Physical Geography Lab (SCIT)

GPH 212 Introduction to Meteorology (SCIT) AND GPH 214 Introduction to Meteorology Laboratory (SCIT)

Material Science:

MSE 208 Patterns in Nature (SCIT)

Physical Science:

PHS 110 Fundamentals of Physical Science (SCIT)

PHS 115 The Science of Musical Instruments

PHS 208 Patterns in Nature (SCIT)

Physics:

PHY 101 Introduction to Physics (SCIT)

PHY 111 General Physics (SCIT) AND PHY 113 General Physics Laboratory (SCIT)

PHY 112 General Physics (SCIT) AND PHY 114 General Physics Laboratory (SCIT)

PHY 121 University Physics I: Mechanics (SCIT) AND PHY 122 University Physics Laboratory I (SCIT)

PHY 131 University Physics II: Electricity and Magnetism (SCIT) AND PHY 132 University Physics Laboratory II (SCIT)

PHY 150 Physics I (SCIT)

PHY 151 Physics II (SCIT)

PHY 252 Physics III (SCIT)

Science Education:

SCN 250 Physical Science by Inquiry

Earth Science:

SES 106 Habitable Worlds (SCIT)

SES 121 Earth, Solar System and Universe (SCIT) **AND** **SES 123 Earth, Solar System and Universe Laboratory (SCIT)**

SES 141 Energy In Everyday Life (SCIT)

Sustainability:

SOS 182 Water Planet (SCIT)

AND Scientific Thinking in Natural Sciences (SCIT)

Students must complete eight credit hours of courses that satisfy SCIT from the same subject area. An additional course (3-4 credit hours) must be completed from a different subject area.

ASU 101 or College-Specific First-Year Seminar

ASU 101 or college-specific equivalent First-Year Seminar required of all first-year students.

ASU 101-CAI The ASU Experience	C	1

First-Year Composition

ENG 101 First-Year Composition **AND** **ENG 102 First-Year Composition** **OR** **ENG 105 Advanced First-Year Composition** **OR** **ENG 107 First-Year Composition** **AND** **ENG 108 First-Year Composition**	C	6

Notes

All baccalaureate degree students must fulfill university graduation requirements, including a minimum of 120 credit hours, with at least 45 credit hours in upper-division courses.

All undergraduate students must complete General Studies requirements.

Mathematics Placement Assessment score determines placement in first mathematics course.

Students should work with their academic advisor, and consider course prerequisites, in order to complete all degree requirements in four years.

General Studies designations listed next to courses were valid for the 2026 - 2027 academic year. Please refer to the course catalog for current General Studies designations at time of class registration. General Studies credit is applied according to the designation the course carries at the time the class is taken.