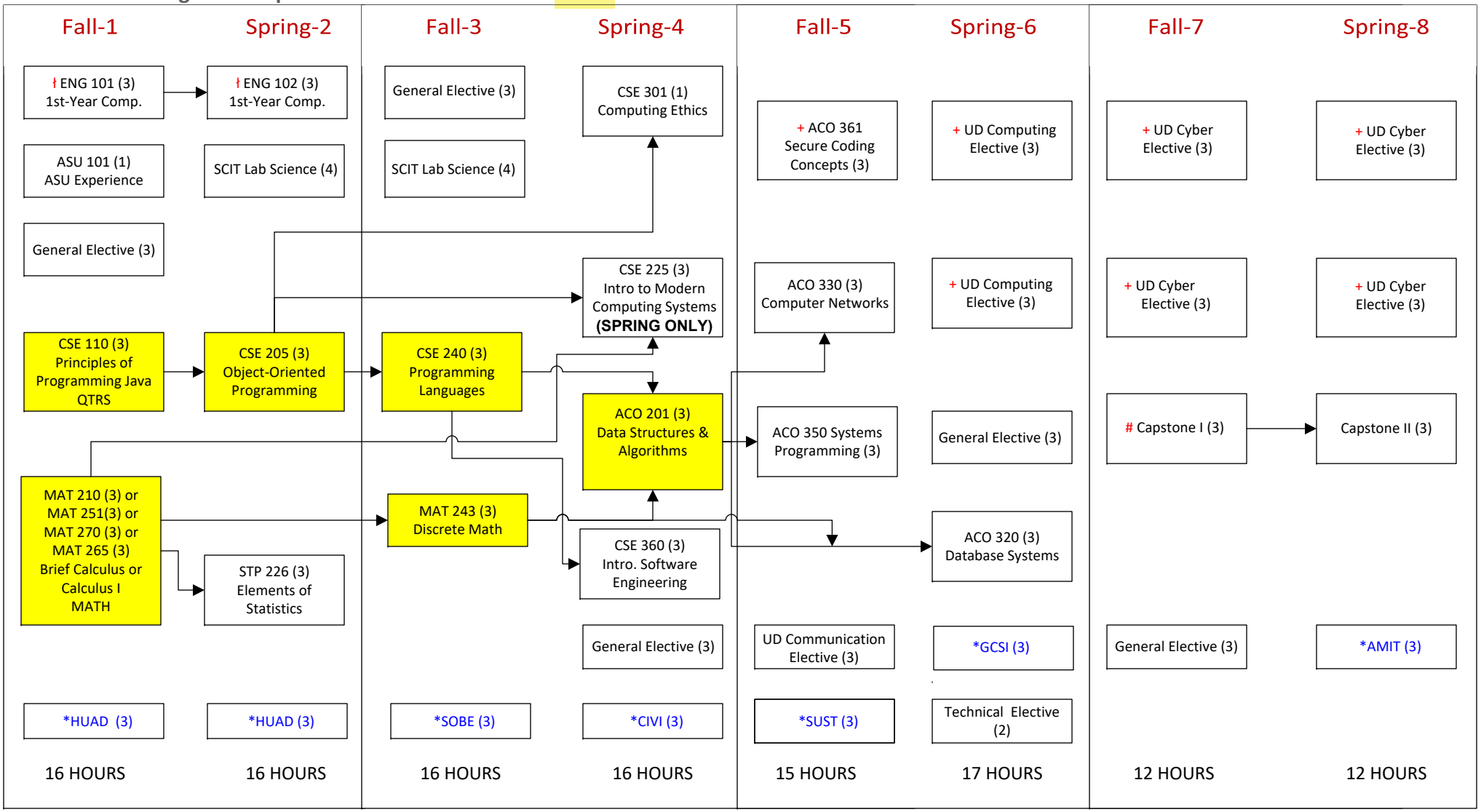
FLOWCHARTS are aids to assist in tracking academic progress. For official graduation requirements, please consult your DARS audit.

School of Computing & Augmented Intelligence
Computer Science (Cybersecurity), BA (ESCSEIBA)
2025-2026 Catalog Year Requirements – General Studies GOLD

Name: _____
Student ID#: _____



NOTES:

ł International students may take ENG 107 and ENG 108. Students placing in to ENG 105 will replace ENG 101 with a recommended elective course

** See SCAI Advising Center or SCAI Website (https://degrees.apps.asu.edu/bachelors/major/ASU00/ESCSEBA/pre-computer-science-ba) for degree requirements and a list of technical/ computing electives.

+ All Upper division XXX courses may require additional prerequisites

All prerequisite coursework must be completed prior to taking Capstone courses

Shaded courses designate "Critical Requirements" and must be completed as described above to remain on-track. **Off-track twice students will be required to change their major.**

Minimum "C" grade is required in all major courses (see major map for details)

All ASU students must complete required university general studies as specified on the degree audit (DARs). ***HUAD, SOBE, AMIT, CIVI, GCSI, & SUST** classes can be taken in any order.

Term 1

ENG 101: First-Year Composition

ASU 101: The ASU Experience

Elective (3 credits)

CSE 110: Principles of Programming with Java (QTRS)-Concepts of problem solving using Java, algorithm design, structured programming, fundamental algorithm s and techniques, and computer systems concepts. Social and ethical responsibility.

MAT 210 or MAT 251 or MAT 265 or MAT 270 (MATH) -Limits and continuity, differential calculus of functions of one variable, introduction to integration.

Humanities, Fine Arts& Design (HUAD)

Term 2

ENG 102: First-Year Composition

Lab Science Option 1 (SCIT)

CSE 205: Object-Oriented Programming& Data Structures-Problem solving by programming with an object-oriented programming language. Introduces data structures. Overview of computer science topics.

STP 226: Elements of Statistics-Basic concepts and methods of statistics, including descriptive statistics, significance tests, estimation, sampling, and correlation.

Humanities, Fine Arts& Design (HUAD)

Term 3

CSE 240: Introduction to Programming Languages - Introduces the procedural, object-oriented, functional and declarative languages.

MAT 243: Discrete Mathematical Structure - Logic, sets, functions, elementary number theory and combinatorics, recursive algorithms, and mathematical reasoning, including induction. Emphasizes connections to computer science.

Elective (3 credits)

Lab Science Option 2 (SCIT)

Social & Behavioral Sciences (SOBE)

Term 4

CSE 301: Computing Ethics - Ethics for computing majors: history of computing, intellectual property, privacy, ethical frameworks, professional ethical responsibilities and risks of computer-based systems.

CSE 225: Introduction to Modern Computing Systems -

ACO 201: Data Structures and Algorithms - Static and dynamic data structures, recursive and iterative sorting and searching, object-oriented design and programming, software design models and implementation/testing strategies, professional responsibilities.

Governance and Civic Engagement (CIVI)

Elective

Term 5

ACO 361 Secure Coding Concepts - Secure software development process including designing secure applications, writing secure code that can withstand attacks, and security testing and auditing. Focuses on the security issues a developer faces, common security vulnerabilities and flaws, and security threats. Explains security principles, strategies, coding techniques and tools that can help make code more resistant to attacks. Students write and analyze code that demonstrates specific security development techniques.

ACO 350: Systems Programming - Introduces operating systems as resource managers, processes, threads, memory allocation, file systems, protection, system calls, application program interfaces.

ACO 330: Computer Networks-Network architecture and protocols, principles of network applications, socket programming, flow and congestion control, switching and routing, link-layer technologies, traffic capture and analysis, security.

Upper Division Communication Elective (see major map or DARs for options)

Sustainability (SUST)

Term 6

ACO 320: Database Systems - Entity-relationship and relational data models. Database design theory. Relational algebra, calculus and SQL query languages. Query optimization. XML fundamentals. Transactions, recovery and concurrency control.

Upper Division Computing Elective (see major map or DARS for options)

Upper Division Computing Elective (see major map or DARS for options)

Global Communities, Societies, and Individuals (GCSI)

Technical Elective (2 credits)

Elective (3 credits)

Term 7

Upper Division Cyber Elective (see major map or DARs for options)

Upper Division Cyber Elective (see major map or DARs for options) **Computer Science Capstone I -** First course in capstone sequence for computer science majors continuing the development process, technical skills, teamwork, and communication

General Elective (3 credits)

Term 8

Upper Division Cyber Elective (see major map or DARs for options)

Upper Division Cyber Elective (see major map or DARs for options)

Computer Science Capstone Project II-Second course in capstone sequence for computer science majors continuing the development process, technical skills , teamwork, and communication.

American Institutions (AMIT)