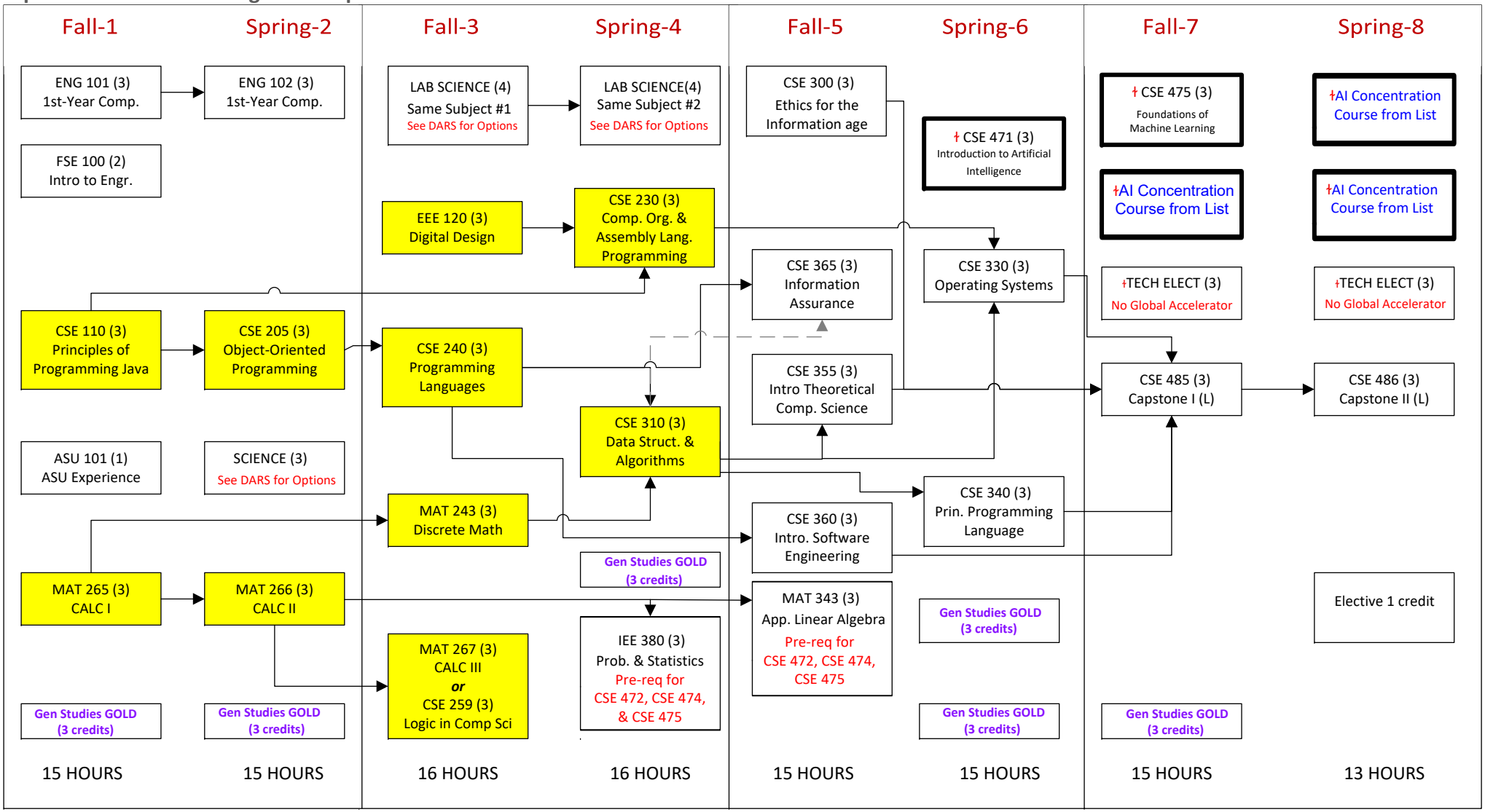
FLOWCHARTS are aids to assist in tracking academic progress. For official graduation requirements, please consult your DARS Degree Audit.

School of Computing & Augmented Intelligence (SCAI)
Computer Science (Artificial Intelligence) BS (ESCSEAIBS)
Updated: 2026-27 Catalog Year Requirements

Name: _____ Student ID#: _____



GENERAL STUDIES GOLD CHECKLIST:____ HUAD| ____ SOBE| ____ GCSI| ____ CIVI| ____ AMIT| ____ SUST| ***See DARS for requirements specific to your progress**

AI Concentration Course List: CSE 408 Multimedia Information Systems; CSE 472 Social Media Mining; CSE 474 Mobile Robotics; CSE 476 Introduction to Natural Language Processing

† Prerequisites required, check course schedule for most up to date information.-
- International students may take ENG107 & ENG108 in place of ENG101 & ENG102. Students placing in and completing ENG105 with replace ENG101 with a recommended course.
- See SCAI Website (https://scai.engineering.asu.edu/computer-science-bs) for a complete listing of program requirements and list of approved Technical Electives.
- Global Career Accelerator (Global Tech) program courses can NOT be used to satisfy major requirements; for example Technical Electives (TE). See DARS for options
- All upper division courses may require additional prerequisites. Please check the course catalog for specific enrollment requirements related to each course.
- ALL prerequisite coursework must be complete prior to taking capstone courses (CSE 485). NO EXCEPTIONS
- Minimum grade of "C" is required for all major courses (see program information for more details)
- Shaded boxes indicate "Critical Requirements" and must be completed as illustrated above to remain on-track for graduation. Students that are off-track for two terms in a row will be required to change their major.

TERM 1

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

FSE 100: Introduction to Engineering-Introduces the engineering design process: working in engineering teams; the profession of engineering; engineering models, written and oral technical communication skills.

MAT 265: Calculus for Engineers I -Limits and continuity, differential calculus of functions of one variable, introduction to integration. Not open to students with credit in MAT 270

ASU 101-CAI: The ASU Experience

ENG 101: First-Year Composition

General Studies Gold

TERM 2

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.

MAT 266: Calculus for Engineers II -Methods of integration, applications of calculus, elements of analytic geometry, improper integrals, Taylor series

ENG 102: First-Year Composition

Science (3 credits) SEE DARS FOR APPROVED OPTIONS

General Studies Gold

TERM 3

EEE 120: Digital Design Fundamentals-

Number systems, conversion methods, binary and complement arithmetic, Boolean algebra, circuit minimization, ROMs, PLAs, flipflops, synchronous sequential circuits.

CSE 240: Introduction to Programming Languages -Introduces the procedural (C/C++), applicative (LISP/Scheme), and declarative (Prolog) languages.

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

MAT 267: Calculus for Engineers III -Vector-valued functions of several variables, partial derivatives, multiple integration OR

CSE 259: Logic in Computer Science - This course is a mathematically solid introduction to propositional logic, first order logic, logic programming, and their applications in computer science.

Lab Science SAME SUBJECT #1 (4 credits) SEE DARS FOR APPROVED OPTIONS

TERM 4

CSE 230: Computer Organization& Assembly Language Programming-Registered computer organization. Instruction set architecture. Assembly language. Processor organization and design. Memory organization. 10 programming, Exception/interrupt handling.

CSE 310: Data Structures and Algorithms-Advanced data structures and algorithms, including stacks, queues, trees (8, 8+, AYL), and graphs. Searching for graphs, hashing, external sorting.

LAB Science SAME SUBJECT #2 (4 credits) SEE DARS FOR APPROVED OPTIONS

IEE 380: Probability and Statistics for Engineering Problem solving applications oriented course with computer based experience using statistical software for formulating and solving engineering problems

General Studies Gold

TERM 5

CSE 300: Ethics for the Information Age - History of computing, ethical frameworks, networked communication, intellectual property, privacy, security, computer reliability, professional ethical responsibilities, and automation and globalization.

CSE 355: Introduction to Theoretical Computer Science-Introduces formal language theory and automata, Turing machines, decidability/undecidability, recursive function theory, and complexity theory.

CSE 360: Introduction to Software Engineering-Software life cycle models; project management, team development environments and methodologies; software architectures; quality assurance and standards; legal, ethical issues

CSE 365: Information Assurance- Concepts of information assurance (IA); basic IA techniques, policies, risk management administration, legal and ethics issues.

MAT 343: Applied Linear Algebra - Solving linear systems, matrices, determinants, vector spaces, bases, linear transformations, eigenvectors, norms, inner products, decompositions, applications. Problem solving using MATLAB

General Studies Gold

TERM 6

CSE 330: Operating Systems-Operating system structures and services, processor scheduling, concurrent processes, synchronization techniques, memory management, virtual memory, input/output, storage management, and file systems.

CSE 340: Principles of Programming Languages-Formal syntactic and semantic descriptions, compilation and implementation issues, and theoretical foundations for several programming paradigms.

CSE 471 Introduction to Artificial Intelligence - State space search, heuristic search, games, knowledge representation techniques, expert systems and automated reasoning.

General Studies Gold

General Studies Gold

TERM 7

CSE 485: Computer Science Capstone Project I-First course in capstone sequence for computer science majors emphasizing development process, technical skills, teamwork. and communication.

CSE 475 Foundations of Machine Learning Machine learning techniques: supervised learning, unsupervised learning, and neural networks and deep learning.

AI Concentration Option (CSE 408, CSE 472, CSE 474, or CSE 476)

Technical Elective: Select from list on major webpage (No Global Accelerator)

General Studies Gold

TERM 8

CSE 486: Computer Science Capstone Project II-Second course in capstone sequence for computer science majors continuing the development process, technical skills, teamwork, and communication.

AI Concentration Option (CSE 408, CSE 472, CSE 474, or CSE 476)

AI Concentration Option (CSE 408, CSE 472, CSE 474, or CSE 476)

Technical Elective: Select from list on major webpage (No Global Accelerator)

Elective (1 credit)