NOTICE OF COURSE UPDATES

The below course updates were enacted after the 2017-18 catalog was published.

The course updates apply to ALL students taking an updated course in or after the effective semester regardless of a student’s official catalog year.

The course updates may add necessary prerequisites which are not reflected in the flowchart ordering.

If you have any questions about the course updates and how they may impact your specific graduation plan please speak with your SCAI academic advisor.

<table>
<thead>
<tr>
<th>Course</th>
<th>Change</th>
<th>Effective Semester</th>
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<tbody>
<tr>
<td>CSE 466</td>
<td>CSE 365 Added to Prerequisites</td>
<td>Fall 2020</td>
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<tr>
<td>CSE 467</td>
<td>CSE 365 Added to Prerequisites</td>
<td>Fall 2020</td>
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<tr>
<td>CSE 468</td>
<td>CSE 365 and CSE 434 added to Prerequisites</td>
<td>Fall 2020</td>
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<tr>
<td>CSE 485</td>
<td>CSE 301 Added to Prerequisites</td>
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CONTINUE TO COMPUTER SCIENCE FLOWCHART
Computer Science, BS
Bachelor of Science, 2017-2018 Catalog Year
ESCSEBS

FALL-1  SPRING-2  FALL-3  SPRING-4  FALL-5  SPRING-6  FALL-7  SPRING-8

ENG 101 (3)  ENG 102 (3)
1st-Year Comp.

FSE 100 (2)  **LAB SCI
Intro to Engr.
Option (4)

ASU 101 (1)
ASU Experience

**LAB SCI
GENERAL
ELECT (3)
Option (4)

**LAB SCI
**Sequence
Part 1 of 2

**LAB SCI
**Sequence
Part 2 of 2

MAT 243 (3)
Discrete Math

MAT 265 (3)  MAT 266 (3)
CALC I  CALC II

MAT 245 (3)  DEF SCI
Cultural

ASU Experience

CSE 110 (3)
Principles of Programming
Java

CSE 205 (3)
Object-Oriented Programming

MAT 267 (3)
CALC III or
CSE 259 Logic
in Comp Sci

MAT 343 (3)
Applied Linear Algebra

**LAB SCI
**Sequence
Part 1 of 2

**LAB SCI
**Sequence
Part 2 of 2

CSE 120 (3)
Digital Design

CSE 230 (3)
Comp. Org. &
Assembly Lang.
Programming

CSE 240 (3)
Programming Languages

CSE 255 (3)
Intro Theoretical
Comp. Science

CSE 275 (3)  IEE 380 (3)
Data Struct. &
Prob. & Stats.

CSE 310 (3)  **CSE 301 (1)
Intro Theoretical
Computing
Ethics

CSE 310 (3)
Data Struct. &
Intro Theoretical
Algorithms

CSE 355 (3)  CSE 340 (3)
Prin. Prog. Lang

CSE 360 (3)
Intro. Software
Engineering

CSE 360 (3)
Intro. Software
Engineering

CSE 360 (3)  CSE 485 (3)
Intro. Software
Engineering

CSE 485 (3)
Capstone I (L)

CSE 486 (3)
Capstone II (L)

HU/SB (3)
HU/SB (3)
HU/SB (3)
HU/SB (3)

HU/SB (3)
HU/SB (3)
HU/SB (3)
HU/SB (3)

15 HOURS 16 HOURS 16 HOURS 16 HOURS 16 HOURS 15 HOURS 14 HOURS 12 HOURS

Notes:
** See CIDSE Advising Center or CIDSE Website (http://cidse.engineering.asu.edu/degreerequirementsbscs/) for approved technical electives and approved lab science sequence courses.
† CSE 301 requires FSE 100 as an additional prerequisite
‡ CSE 301 requires FSE 100 as an additional prerequisite
†† CSE 4XX courses require CSE 310 and/or 360 as prerequisites
Shaded courses designate critical requirements.
Minimum “C” grade required in all CSE major courses
Term 1
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-CSE: The ASU Experience
ENG 101: First-Year Composition
HU/SB: Humanities, Fine Arts & Design or Social & Behavioral Sciences

General Elective

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
Lab Science Option: choose from BIO, GLG, CHM OR PHY (see full list below in Term 3)

Term 3
CSE 120: Digital Design Fundamentals - Number systems, conversion methods, binary and complement arithmetic, Boolean algebra, circuit minimization, ROMs, PLAs, flipflops, synchronous sequential circuits
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: PHY 121/122 & PHY 131/132 or CHM113 & 116 or GLG 101/103 & GLG 102/104 or BIO 181 & 182
HU/SB: Humanities, Fine Arts & Design or Social & Behavioral Sciences

Term 4
CSE 240: Introduction to Programming Languages - Introduces the procedural (C/C++), applicative (LISP/Scheme), and declarative (Prolog) languages.
Lab Science: complete sequence from above
HU/SB: Humanities, Fine Arts & Design or Social & Behavioral Sciences

Term 5
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 310: Data Structures and Algorithms - Advanced data structures and algorithms, including stacks, queues, trees (B, B+, AVL), and graphs. Searching for graphs, hashing, external sorting.
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
HU/SB: Humanities, Fine Arts & Design or Social & Behavioral Sciences

Technical Elective

CSE 4** Elective
HU/SB: Upper Division Humanities, Fine Arts & Design or Social & Behavioral Sciences

Term 6
CSE 330: Operating Systems - Operating system structure 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 355: Introduction to Theoretical Computer Science - Introduces formal language theory and automata, Turing machines, decidability/undecidability, recursive function theory, and complexity theory.
CSE 4** Elective
HU/SB: Upper Division Humanities, Fine Arts & Design or Social & Behavioral Sciences

Technical Elective

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 4** Elective
CSE 4** Elective
Technical Elective: Upper Division Elective
General Elective (2 credits)

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 4** Elective
CSE 4** Elective
Technical Elective: Upper Division Elective

Technical Elective

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.
CSE 4** Elective
CSE 4** Elective
Technical Elective: Upper Division Elective

General Elective (2 credits)