CATALOG TERM: 2025-2027 **TOTAL UNITS REQUIRED = 120**

SOFTWARE ENGINEERING

- This worksheet is intended for supplemental use only. The University will use your Academic Requirements Report (ARR) to track your graduation requirements, including those for your major. Please continue to check your ARR for accuracy. If your ARR requires a correction, please submit an ARR Correction Form.
- Your Degree Planner will display the following requirements in the University's recommended sequence.
- With the exception of SE 100 or CS 100, all courses used for the major and preparation for the major must be completed with a grade of C (2.0) or higher.
- Transfer students are encouraged to consult with faculty/academic advisor to ensure their courses in computer science, mathematics, and sciences are applicable toward the Preparation for the Major requirements.
- All non-articulated courses MUST be reviewed and approved by a faculty advisor in the corresponding department.
- A minimum of 15 upper-division units counted for the major must be completed at CSUSM.

PREPARATION FOR THE MAJOR (43 UNITS)

Lower-division Computing Essential Courses (13 units):

✓	Course	Units
	SE 100˜: Introduction to Software Engineering Practices	1
	CS 111: Computer Science I (^MATH 125, 126, or 160)	4
	CS 211: Computer Science II (*CS 111; ^MATH 160)	4
	CS 231: Assembly Language and Digital Circuits (*CS 111)	4

Mathematics and Science Supporting Courses (30 units):

✓	Course	Units
	BIOL 104: Principles of Biology – Human Emphasis	4
	MATH 160: Calculus with Applications I (*MATH 125, 126 or MATH Placement Exam)	5
	MATH 162: Calculus with Applications II (*MATH 160)	4
	MATH 242: Introduction to Statistics (*MATH Category 1 or 2 or MATH 105 or MATH 115)	3
	MATH 264: Linear Algebra (*MATH 162)	3
	MATH 270: Basic Discrete Mathematics (*MATH 160)	3

Choose 1 of the following Physics or Chemistry sequences:

a. PHYS 101: Introduction to Physics I (4) (*GE B4)
PHYS 102: Introduction to Physics II (4) (*PHYS 101)

b. PHYS 201: Physics of Mechanics and Sound (4) (*MATH 160)
PHYS 202: Physics of Electromagnetism and Optics (4) (*PHYS 201 or 205 and MATH 162)

c. CHEM 150: General Chemistry (4) (*MATH 101, 103, 105 or MATH Category 1 or 2)
CHEM 150L: General Chemistry Laboratory (1) (^CHEM 150)
CHEM 160: General Chemistry II (3) (*MATH 125, 126 or 160 and CHEM 150, 150L)

✓	Course	Units
		4
		4

*^co/prerequisite; *prerequisite; ˜CS 100 can be used to replace SE 100.*

CATALOG TERM: 2025-2027 **TOTAL UNITS REQUIRED = 120**

SOFTWARE ENGINEERING

UPPER-DIVISION COURSEWORK (45 UNITS)

Computing Essential Courses (15 units)

✓	Course	Units
	CS 311: Data Structures and Algorithms (*CS 211, ^MATH 270 or 350)	3
	CS 351: Programming Languages (^MATH 270 or 350; CS 311)	3

Choose 1 of the following sequences:

a. CS 331: Computer Architecture (*CS 231)
CS 433: Operating Systems (*CS 231, 311)
CS 435: Real-Time Concepts for Embedded Systems (*CS 231, 311)

b. CS 443: Database Management Systems (*CS 311)
CIS 444: Web Programming (*CS 443)
CS 446: Cloud Computing (*CS 443)

✓	Course	Units
		3
		3
		3

Software Engineering Core Courses (24 units):

✓	Course	Units
	PHIL 348: Ethics in Engineering	3
	SE/CS 370: Introduction to Software Engineering (^MATH 270 or 350 and CS 311)	3
	SE 451: Software Requirements and Design (^SE 370)	3
	SE 461: Software Testing and Quality (*MATH 242, SE 370)	3
	SE 471: Software Architecture (*SE 370)	3
	SE 481: Software Project Planning and Management (*SE 451)	3
	SE 490: Senior Project I (^SE 481; *SE 461, 471)	3
	SE 491: Senior Project II (*SE 490)	3

Software Engineering Electives (6 units):

Choose from CS 331, or other Software Engineering or Computer Science courses numbered 400 or higher, excluding CS 490.

✓	Course	Units
		3
		3

*^co/prerequisite; *prerequisite; ˜CS 100 can be used to replace SE 100.*