Articulation Agreement by Major

Effective during the 2022-2023 Academic Year

To: California State University, San Marcos 2022-2023 General Catalog, Semester

CS 231 - Assembly Language and Digital Circuits (4.00)

From: Palomar College 2022-2023 General Catalog, Semester

CSCI 212 - Machine Organization and Assembly Language (4.00)

Computer Science - CS Option

THE ARTICULATION AGREEMENT BELOW IS SUBJECT TO PERIODIC REVISION. PLEASE CONSULT A COUNSELOR EVERY SEMESTER TO OBTAIN CURRENT INFORMATION ABOUT POSSIBLE CHANGES IN THE AGREEMENT.

MINIMUM GRADE OF C

All courses counted toward the major, including Preparation for the Major courses, must be completed with a letter grade of C (2.0) or better. Credit/No Credit is not accepted.

LOWER AND UPPER DIVISION COURSE OPTIONS

The course below, MATH 264, can be used to satisfy a major requirement; an upper division course can also be used to satisfy this requirement.

Please see the 2022-2023 CSUSM catalog to view the upper division option within the Requirements for Non-Computer Science Supporting Courses section

CS 111 - Computer Science I (4.00) CSCI 112 - Programming Fundamentals I (4.00) --- And -- CSCI 222 - C++ and Object-Oriented Programming (4.00) CSCI 114 - Programming Fundamentals II (4.00) --- And -- CSCI 210 - Data Structures (4.00)

NON-COMPUTER SCIENCE SUPPORTING COURSES

MATH 160 - Calculus with Applications, I (5.00)	\leftarrow	MATH 140 - Calculus with Analytic Geometry, First Course (5.00)
MATH 162 - Calculus with Applications, II (4.00)	\leftarrow	MATH 141 - Calculus with Analytic Geometry, Second Course (4.00)
MATH 270 - Basic Discrete Mathematics (3.00)	\leftarrow	MATH 245 - Discrete Mathematics (3.00)
MATH 242 - Introduction to Statistics (3.00)	\leftarrow	MATH 120 - Elementary Statistics (4.00)
MATH 264 - Introduction to Linear Algebra (3.00)	\leftarrow	MATH 200 - Introduction to Linear Algebra (3.00)

BIOL 104 - Principles of Biology-Human Emphasis (4.00) BIOL 100 - Introductory Biology: General Biology (4.00) --- Or -- BIOL 101 - General Biology - Lecture (3.00) --- And -- BIOL 101L - Introductory Biology: General Biology (Laboratory) (1.00) BIOL 160 - Microbiology for Health Sciences (4.00) BIOL 212 - Fundamentals of Microbiology (4.00)

PIOL 177 June to Humana Ametana O Dhanisham fan Kinasislam I		
BIOL 177 - Intro to Human Anatomy & Physiology for Kinesiology I (4.00)	\leftarrow	BIOL 210 - Anatomy (4.00)
		And
		BIOL 211 - Physiology (4.00)
		BIOL 211 Thysiology (4.00)
BIOL 178 - Intro to Human Anatomy & Physiology for Kinesiology I	. ←	BIOL 210 - Anatomy (4.00)
(4.00)		And
		BIOL 211 - Physiology (4.00)
BIOL 210 - Introduction to Cellular and Molecular Biology (4.00)	←	BIOL 200 - Foundations of Biology I (5.00)
BIOL 211 - Introduction to Organismal and Population Biology (4.00) ←	BIOL 201 - Foundations of Biology II (5.00)
CHEM 105 - General, Organic, and Biochemistry for Life (4.00)	←	CHEM 104 - General Organic and Biochemistry (5.00)
		CHEM 105 - Fundamentals of Organic Chemistry (4.00)
		And
		CHEM 205 - Introductory Biochemistry (3.00)
	And	
CHEM 105L - General, Organic, and Biochemistry for Life	\leftarrow	CHEM 104 - General Organic and Biochemistry (5.00)
Laboratory (1.00)		Or
		CHEM 105 - Fundamentals of Organic Chemistry (4.00)
		And
		And CHEM 205 - Introductory Biochemistry (3.00)
CHEM 150 Congral Chemistry (4.00)		CHEM 205 - Introductory Biochemistry (3.00)
CHEM 150 - General Chemistry (4.00)	←	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00)
	← And ←	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00)
		CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00)
CHEM 150L - General Chemistry Laboratory (1.00)		CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00)	←	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00)	← ← And	CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00)	← ← And	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00) CHEM 175 - General Chemistry Laboratory II (1.00)	← ← And ←	CHEM 10 - General Chemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00) CHEM 115L - General Chemistry Laboratory (2.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00) CHEM 175 - General Chemistry Laboratory II (1.00) CHEM 201 - Organic Chemistry (3.00)	← And ←	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00) CHEM 115L - General Chemistry Laboratory (2.00) CHEM 220 - Organic Chemistry (5.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00) CHEM 175 - General Chemistry Laboratory II (1.00) CHEM 201 - Organic Chemistry (3.00)	← And ← And	CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00) CHEM 115L - General Chemistry Laboratory (2.00) CHEM 220 - Organic Chemistry (5.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00) CHEM 175 - General Chemistry Laboratory II (1.00) CHEM 201 - Organic Chemistry (3.00)	← And ← And	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00) CHEM 115L - General Chemistry Laboratory (2.00) CHEM 220 - Organic Chemistry (5.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00) CHEM 175 - General Chemistry Laboratory II (1.00) CHEM 201 - Organic Chemistry (3.00) CHEM 201L - Organic Chemistry Laboratory (2.00)	← And ← And ←	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00) CHEM 115L - General Chemistry Laboratory (2.00) CHEM 220 - Organic Chemistry (5.00) CHEM 220 - Organic Chemistry (5.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00) CHEM 175 - General Chemistry Laboratory II (1.00) CHEM 201 - Organic Chemistry (3.00) CHEM 201L - Organic Chemistry Laboratory (2.00)	← And ← And ← ←	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00) CHEM 115L - General Chemistry Laboratory (2.00) CHEM 220 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00) CHEM 175 - General Chemistry Laboratory II (1.00) CHEM 201 - Organic Chemistry (3.00) CHEM 201L - Organic Chemistry Laboratory (2.00) CHEM 202 - Organic Chemistry (3.00)	← And ← And ← And ← And	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00) CHEM 115L - General Chemistry Laboratory (2.00) CHEM 220 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00) CHEM 175 - General Chemistry Laboratory II (1.00) CHEM 201 - Organic Chemistry (3.00) CHEM 201L - Organic Chemistry Laboratory (2.00)	← And ← And ← And ← And	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00) CHEM 115L - General Chemistry Laboratory (2.00) CHEM 220 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00) CHEM 175 - General Chemistry Laboratory II (1.00) CHEM 201 - Organic Chemistry (3.00) CHEM 201L - Organic Chemistry Laboratory (2.00) CHEM 202L - Organic Chemistry Laboratory (2.00)	← And ← And ← And ← And	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00) CHEM 115L - General Chemistry Laboratory (2.00) CHEM 220 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00) CHEM 175 - General Chemistry Laboratory II (1.00) CHEM 201 - Organic Chemistry (3.00) CHEM 201L - Organic Chemistry Laboratory (2.00) CHEM 202L - Organic Chemistry Laboratory (2.00)	← And ← And ←	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 115 - General Chemistry Laboratory (2.00) CHEM 115L - General Chemistry Laboratory (2.00) CHEM 220 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00) CHEM 175 - General Chemistry Laboratory II (1.00) CHEM 201 - Organic Chemistry (3.00) CHEM 201L - Organic Chemistry Laboratory (2.00) CHEM 202 - Organic Chemistry (3.00) CHEM 202L - Organic Chemistry Laboratory (2.00) PHYS 101 - Introduction to Physics I (4.00)	← And ← And ←	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00) CHEM 115L - General Chemistry Laboratory (2.00) CHEM 220 - Organic Chemistry (5.00) CHEM 220 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00) PHYS 120 - General Physics (4.00) Or PHYS 200 - Fundamentals of Physics (5.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00) CHEM 175 - General Chemistry Laboratory II (1.00) CHEM 201 - Organic Chemistry (3.00) CHEM 201L - Organic Chemistry Laboratory (2.00) CHEM 202 - Organic Chemistry (3.00) CHEM 202L - Organic Chemistry Laboratory (2.00) PHYS 101 - Introduction to Physics I (4.00)	← And ← And ←	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00) CHEM 115L - General Chemistry Laboratory (2.00) CHEM 220 - Organic Chemistry (5.00) CHEM 220 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00) PHYS 120 - General Physics (4.00) PHYS 200 - Fundamentals of Physics (5.00) PHYS 121 - General Physics (4.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00) CHEM 175 - General Chemistry Laboratory II (1.00) CHEM 201 - Organic Chemistry (3.00) CHEM 201L - Organic Chemistry Laboratory (2.00) CHEM 202 - Organic Chemistry (3.00) CHEM 202L - Organic Chemistry Laboratory (2.00) PHYS 101 - Introduction to Physics I (4.00)	← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ←	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00) CHEM 115L - General Chemistry Laboratory (2.00) CHEM 220 - Organic Chemistry (5.00) CHEM 220 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00) PHYS 120 - General Physics (4.00) Or PHYS 200 - Fundamentals of Physics (5.00) PHYS 121 - General Physics (4.00) Or
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00) CHEM 175 - General Chemistry Laboratory II (1.00) CHEM 201 - Organic Chemistry (3.00) CHEM 201L - Organic Chemistry Laboratory (2.00) CHEM 202L - Organic Chemistry Laboratory (2.00) PHYS 101 - Introduction to Physics I (4.00) PHYS 102 - Introduction to Physics II (4.00)	← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ←	CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry Laboratory (2.00) CHEM 115L - General Chemistry Laboratory (2.00) CHEM 220 - Organic Chemistry Laboratory (2.00) CHEM 220 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00) PHYS 120 - General Physics (4.00) Or PHYS 200 - Fundamentals of Physics (5.00) PHYS 121 - General Physics (4.00) Or PHYS 201 - Fundamentals of Physics (5.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00) CHEM 175 - General Chemistry Laboratory II (1.00) CHEM 201 - Organic Chemistry (3.00) CHEM 201L - Organic Chemistry Laboratory (2.00) CHEM 202 - Organic Chemistry (3.00) CHEM 202L - Organic Chemistry Laboratory (2.00) PHYS 101 - Introduction to Physics I (4.00) PHYS 102 - Introduction to Physics II (4.00) PHYS 201 - Physics of Mechanics and Sound (4.00)	← And ← And ← -	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00) CHEM 115L - General Chemistry Laboratory (2.00) CHEM 220 - Organic Chemistry (5.00) CHEM 220 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00) PHYS 120 - General Physics (4.00) Or PHYS 200 - Fundamentals of Physics (5.00) PHYS 121 - General Physics (4.00) Or PHYS 201 - Fundamentals of Physics (5.00) PHYS 230 - Principles of Physics (5.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00) CHEM 175 - General Chemistry Laboratory II (1.00) CHEM 201 - Organic Chemistry (3.00) CHEM 201L - Organic Chemistry Laboratory (2.00) CHEM 202L - Organic Chemistry Laboratory (2.00) PHYS 101 - Introduction to Physics I (4.00) PHYS 102 - Introduction to Physics II (4.00) PHYS 201 - Physics of Mechanics and Sound (4.00) PHYS 202 - Physics of Electromagnetism and Optics (4.00)	← And ← And ← -	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00) CHEM 115L - General Chemistry Laboratory (2.00) CHEM 220 - Organic Chemistry (5.00) CHEM 220 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00) PHYS 120 - General Physics (4.00) Or PHYS 200 - Fundamentals of Physics (5.00) PHYS 121 - General Physics (4.00) Or PHYS 201 - Fundamentals of Physics (5.00) PHYS 230 - Principles of Physics (5.00) PHYS 231 - Principles of Physics (5.00)
CHEM 150L - General Chemistry Laboratory (1.00) CHEM 160 - General Chemistry II (3.00) CHEM 175 - General Chemistry Laboratory II (1.00) CHEM 201 - Organic Chemistry (3.00) CHEM 201L - Organic Chemistry Laboratory (2.00) CHEM 202L - Organic Chemistry Laboratory (2.00) PHYS 101 - Introduction to Physics I (4.00) PHYS 102 - Introduction to Physics II (4.00) PHYS 201 - Physics of Mechanics and Sound (4.00)	← And ← And ← -	CHEM 205 - Introductory Biochemistry (3.00) CHEM 110 - General Chemistry (3.00) CHEM 110L - General Chemistry Laboratory (2.00) CHEM 115 - General Chemistry (3.00) CHEM 115L - General Chemistry Laboratory (2.00) CHEM 220 - Organic Chemistry (5.00) CHEM 220 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00) CHEM 221 - Organic Chemistry (5.00) PHYS 120 - General Physics (4.00) Or PHYS 200 - Fundamentals of Physics (5.00) PHYS 121 - General Physics (4.00) Or PHYS 201 - Fundamentals of Physics (5.00) PHYS 201 - Fundamentals of Physics (5.00)

PHYS 206 - Physics for the Biological Sciences II (4.00)

PHYS 201 - Fundamentals of Physics (5.00)

--- Or ---

PHYS 231 - Principles of Physics (5.00)

END OF AGREEMENT