

Articulation Agreement by Major

Effective during the 2022-2023 Academic Year

To: University of California, Santa Cruz
2022-2023 General Catalog, Quarter

From: De Anza College
2022-2023 General Catalog, Quarter

Chemistry Minor

GENERAL INFORMATION FOR ALL MINORS

UC Santa Cruz students have the option to complete one or more minors, provided they complete all of the required coursework for the minor(s). The sponsoring department establishes the course requirements for a minor. The minor involves substantial work in the discipline and requires no fewer than 25 upper-division or graduate credits. The minor appears on the student's official transcript but not on the diploma.

Students do not apply for admission into a minor when applying to UC Santa Cruz. If interested in completing a minor, transfer students must contact the department sponsoring the minor after enrolling at UCSC.

CHEMISTRY MINOR

Please visit the department's website to learn more about this minor:

<https://www.chemistry.ucsc.edu/academics/undergraduates/index.html>

PREPARATION FOR THE MINOR

One of the following chemistry series:

CHEM 1A: General Chemistry

CHEM 1B: General Chemistry **AND** CHEM 1M: General Chemistry Laboratory

CHEM 1C: General Chemistry **AND** CHEM 1N: General Chemistry Laboratory

OR

CHEM 4A: Advanced General Chemistry: Molecular Structure and Reactivity

CHEM 4B: Advanced General Chemistry: Molecular Structure and Reactivity

CHEM 4BL: Advanced General Chemistry Lab

as well as the following:

CHEM 8A: Organic Chemistry **AND** CHEM 8L: Organic Chemistry Laboratory

CHEM 8B: Organic Chemistry **AND** CHEM 8M: Organic Chemistry Laboratory

One of the following calculus series:

MATH 11A: Calculus with Applications **AND** MATH 11B: Calculus with Applications **OR**

MATH 19A: Calculus for Science, Engineering, and Mathematics **AND** MATH 19B: Calculus for Science, Engineering, and Mathematics

Plus one of the following options:

MATH 22: Introduction to Calculus of Several Variables **OR**

MATH 23A: Vector Calculus **AND** MATH 23B: Vector Calculus **OR**

AM 30: Multivariate Calculus for Engineers

Plus one of the following physics sequences:

PHYS 6A: Introductory Physics I **AND** PHYS 6L: Introductory Physics I Laboratory

PHYS 6B: Introductory Physics II **AND** PHYS 6M: Introductory Physics II Laboratory

PHYS 6C: Introductory Physics III **AND** PHYS 6N: Introductory Physics III Laboratory

OR

PHYS 5A: Introduction to Physics I **AND** PHYS 5L: Introduction to Physics I Laboratory

PHYS 5B: Introduction to Physics II **AND** PHYS 5M: Introduction to Physics II Laboratory

PREPARATION FOR THE MINOR

Select 1 Series from the following

CHEM 1A - General Chemistry (5.00)

--- And ---

CHEM 1B - General Chemistry (5.00)

--- And ---

CHEM 1C - General Chemistry (5.00)

--- And ---

CHEM 1M - General Chemistry Laboratory (2.00)

--- And ---

CHEM 1N - General Chemistry Laboratory (2.00)

CHEM 1A - General Chemistry (5.00)

--- And ---

CHEM 1B - General Chemistry (5.00)

--- And ---

CHEM 1C - General Chemistry and Qualitative Analysis (5.00)

--- Or ---

CHEM 1AH - General Chemistry - HONORS (5.00)

--- And ---

CHEM 1BH - General Chemistry - HONORS (5.00)

--- And ---

CHEM 1CH - General Chemistry and Qualitative Analysis - HONORS (5.00)

--- Or ---

CHEM 4A - Advanced General Chemistry: Molecular Structure and Reactivity (5.00)

CHEM 1A - General Chemistry (5.00)

--- And ---

CHEM 1B - General Chemistry (5.00)

--- And ---

CHEM 1C - General Chemistry and Qualitative Analysis (5.00)

--- Or ---

CHEM 1AH - General Chemistry - HONORS (5.00)

--- And ---

CHEM 1BH - General Chemistry - HONORS (5.00)

--- And ---

CHEM 1CH - General Chemistry and Qualitative Analysis - HONORS (5.00)

--- And ---

CHEM 4B - Advanced General Chemistry: Molecular Structure and Reactivity (5.00)

--- And ---

CHEM 4BL - Advanced General Chemistry Lab (2.00)

CHEM 1A - General Chemistry (5.00)

--- And ---

CHEM 1B - General Chemistry (5.00)

--- And ---

CHEM 1C - General Chemistry and Qualitative Analysis (5.00)

--- Or ---

CHEM 1AH - General Chemistry - HONORS (5.00)

--- And ---

CHEM 1BH - General Chemistry - HONORS (5.00)

--- And ---

CHEM 1CH - General Chemistry and Qualitative Analysis - HONORS (5.00)

CHEM 8A - Organic Chemistry (5.00)

←

CHEM 12A - Organic Chemistry (5.00)

--- And ---

CHEM 8L - Organic Chemistry Laboratory (2.00)

←

CHEM 12A - Organic Chemistry (5.00)

CHEM 8B - Organic Chemistry (5.00)

← **CHEM 12B** - Organic Chemistry (5.00)

--- And ---

CHEM 8M - Organic Chemistry Laboratory (2.00)

← **CHEM 12B** - Organic Chemistry (5.00)

Select 1 Series from the following

MATH 11A - Calculus with Applications (5.00)

← **MATH 1A** - Calculus (5.00)

--- Or ---

MATH 1AH - Calculus - HONORS (5.00)

--- And ---

MATH 11B - Calculus with Applications (5.00)

←

MATH 1B - Calculus (5.00)

--- And ---

MATH 1C - Calculus (5.00)

--- Or ---

MATH 1BH - Calculus - HONORS (5.00)

--- And ---

MATH 1CH - Calculus - HONORS (5.00)

--- Or ---

MATH 19A - Calculus for Science, Engineering, and Mathematics (5.00)

← **MATH 1A** - Calculus (5.00)

--- Or ---

MATH 1AH - Calculus - HONORS (5.00)

--- And ---

MATH 19B - Calculus for Science, Engineering, and Mathematics (5.00)

←

MATH 1B - Calculus (5.00)

--- And ---

MATH 1C - Calculus (5.00)

--- Or ---

MATH 1BH - Calculus - HONORS (5.00)

--- And ---

MATH 1CH - Calculus - HONORS (5.00)

Select 1 Course or Combination from the following

MATH 22 - Introduction to Calculus of Several Variables (5.00)

←

MATH 1C - Calculus (5.00)

--- And ---

MATH 1D - Calculus (5.00)

--- Or ---

MATH 1CH - Calculus - HONORS (5.00)

--- And ---

MATH 1DH - Calculus - HONORS (5.00)

--- Or ---

MATH 23A - Vector Calculus (5.00)

←

MATH 1D - Calculus (5.00)

--- Or ---

MATH 1DH - Calculus - HONORS (5.00)

--- And ---

MATH 23B - Vector Calculus (5.00)

←

MATH 1D - Calculus (5.00)

--- Or ---

MATH 1DH - Calculus - HONORS (5.00)

--- Or ---

AM 30 - Multivariate Calculus for Engineers (5.00)

← **MATH 1D** - Calculus (5.00)

--- Or ---

MATH 1DH - Calculus - HONORS (5.00)

Select 1 Sequence(s) from the following

PHYS 6A - Introductory Physics I (5.00)

← **PHYS 4A** - Physics for Scientists and Engineers: Mechanics (6.00)

--- Or ---

PHYS 2A - General Introductory Physics (5.00)

--- And ---

PHYS 6L - Introductory Physics I Laboratory (1.00)

← **PHYS 4A** - Physics for Scientists and Engineers: Mechanics (6.00)

--- Or ---

PHYS 2A - General Introductory Physics (5.00)

--- And ---

PHYS 6B - Introductory Physics II (5.00)

← **PHYS 4C** - Physics for Scientists and Engineers: Fluids, Waves, Optics and Thermodynamics (6.00)

--- Or ---

PHYS 2C - General Introductory Physics (5.00)

--- And ---

PHYS 6M - INTRODUCTORY PHYSICS II LABORATORY (1.00)

← **PHYS 4C** - Physics for Scientists and Engineers: Fluids, Waves, Optics and Thermodynamics (6.00)

--- Or ---

PHYS 2C - General Introductory Physics (5.00)

--- And ---

PHYS 6C - Introductory Physics III (5.00)

← **PHYS 4B** - Physics for Scientists and Engineers: Electricity and Magnetism (6.00)

--- Or ---

PHYS 2B - General Introductory Physics (5.00)

--- And ---

PHYS 6N - INTRODUCTORY PHYSICS III LABORATORY (1.00)

← **PHYS 4B** - Physics for Scientists and Engineers: Electricity and Magnetism (6.00)

--- Or ---

PHYS 2B - General Introductory Physics (5.00)

--- Or ---

PHYS 5A - Introduction to Physics I (5.00)

← **PHYS 4A** - Physics for Scientists and Engineers: Mechanics (6.00)

--- And ---

PHYS 5L - INTRODUCTION TO PHYSICS I LABORATORY (1.00)

← **PHYS 4A** - Physics for Scientists and Engineers: Mechanics (6.00)

--- And ---

PHYS 5B - Introduction to Physics II (5.00)

← **PHYS 4C** - Physics for Scientists and Engineers: Fluids, Waves, Optics and Thermodynamics (6.00)

--- And ---

PHYS 5M - INTRODUCTION TO PHYSICS II LABORATORY (1.00)

← **PHYS 4C** - Physics for Scientists and Engineers: Fluids, Waves, Optics and Thermodynamics (6.00)

--- And ---

PHYS 5C - Introduction to Physics III (5.00)

← **PHYS 4B** - Physics for Scientists and Engineers: Electricity and Magnetism (6.00)

--- And ---

PHYS 5N - INTRODUCTION TO PHYSICS III LABORATORY (1.00)

← **PHYS 4B** - Physics for Scientists and Engineers: Electricity and Magnetism (6.00)

END OF AGREEMENT