Articulation Agreement by Major

Effective during the 2022-2023 Academic Year

To: University of California, San Diego 2022-2023 General Catalog, Quarter	From: De Anza College 2022-2023 General Catalog, Quarter

Biology with a Specialization in Bioinformatics B.S.

GENERAL INFORMATION

DATED MATERIAL, SUBJECT TO CHANGE. PLEASE CONSULT CURRENT UCSD GENERAL CATALOG FOR ANY ADDITIONAL INFORMATION.

Effective Fall 2017, transfer major preparation will be required for this major. For details, visit: http://admissions.ucsd.edu/MajorPrep. Please refer to http://biology.ucsd.edu/education/undergrad/admission/transfer-major-prep.html for additional information.

The courses listed below reflect requirements for transfer major preparation for admission consideration, as well as lower-division courses required for the major that may be completed at the community college.

Special Advising Notes:

** CHEM 6C and 7L are not required for Biology with a Specialization in Bioinformatics, but are required for transfer major preparation/admission consideration.

** While not all lower division major requirements are required for transfer major preparation, the Division of Biological Sciences encourages transfer students to complete all of the lower-division course work required for their desired biology major prior to transfer.

**Additionally, students are highly encouraged to complete any sequence (Biology, Math, Physics, General Chemistry and Organic Chemistry) at the institution in which it is begun to allow for continuity in course material.

**The articulated community college course(s) listed below have been approved to satisfy the respective UCSD course(s), however the content covered in the community college course(s) may not be identical to the content covered in the UCSD course(s). Any required major course that does not have an articulation will need to be taken at UCSD.

**All courses required and used for the biology major must be completed with a letter grade of C- or better. This policy applies to all lower-division, upper-division, and required courses taken in other departments, as well as courses transferred and used toward major requirements.

**Equivalency for the lower division Biology major sequence (BILD 1, 2, 3 and 4) is granted based on completion of the major's Biology course sequence at the community college (as listed below), not on individual course completion. No partial credit will be granted.

**Agreements listed below are academic-year specific.

For more information visit www.biology.ucsd.edu.

UC San Diego Advanced Placement (AP) and International Baccalaureate (IB) credit policies are detailed in the links below:

Advanced Placement (AP) https://www.ucsd.edu/catalog/pdf/APC-chart.pdf

International Baccalaureate (IB) https://catalog.ucsd.edu/_files/international-baccalaureate-credits-chart.pdf

LOWER DIVISION MAJOR REQUIREMENTS

BILD 1 - The Cell (4.00)	←	**BIOL 6A** - Form and Function in the Biological World (6.00) **--- And ---** **BIOL 6B** - Cell and Molecular Biology (6.00) **--- And ---** **BIOL 6C** - Ecology and Evolution (6.00) **--- Or ---** **BIOL 6AH** - Form and Function in the Biological World - HONORS (6.00) **--- And ---** **BIOL 6B** - Cell and Molecular Biology (6.00) **--- And ---** **BIOL 6CH** - Ecology and Evolution - HONORS (6.00)
BILD 3 - Organismic and Evolutionary Biology (4.00)	←	**BIOL 6A** - Form and Function in the Biological World (6.00) **--- And ---** **BIOL 6B** - Cell and Molecular Biology (6.00) **--- And ---** **BIOL 6C** - Ecology and Evolution (6.00) **--- Or ---** **BIOL 6AH** - Form and Function in the Biological World - HONORS (6.00) **--- And ---** **BIOL 6B** - Cell and Molecular Biology (6.00) **--- And ---** **BIOL 6CH** - Ecology and Evolution - HONORS (6.00)
BILD 4 - Introductory Biology Lab (2.00)	←	**BIOL 6A** - Form and Function in the Biological World (6.00) **--- And ---** **BIOL 6B** - Cell and Molecular Biology (6.00) **--- And ---** **BIOL 6C** - Ecology and Evolution (6.00) **--- Or ---** **BIOL 6AH** - Form and Function in the Biological World - HONORS (6.00) **--- And ---** **BIOL 6B** - Cell and Molecular Biology (6.00) **--- And ---** **BIOL 6CH** - Ecology and Evolution - HONORS (6.00)

MATH 18 - Linear Algebra (4.00)	←	**MATH 2B** - Linear Algebra (5.00) **--- Or ---** **MATH 2BH** - Linear Algebra - HONORS (5.00)
MATH 20A - Calculus for Science and Engineering (4.00)	←	**MATH 1A** - Calculus (5.00) **--- Or ---** **MATH 1AH** - Calculus - HONORS (5.00)
MATH 20B - Calculus for Science and Engineering (4.00)	←	**MATH 1B** - Calculus (5.00) **--- Or ---** **MATH 1BH** - Calculus - HONORS (5.00)

MATH 20C - Calculus and Analytic Geometry for Science and Engineering (4.00)	←	**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)

CHEM 6A - General Chemistry I (4.00)	←	**CHEM 1A** - General Chemistry (5.00) **--- Or ---** **CHEM 1AH** - General Chemistry - HONORS (5.00)
CHEM 6B - General Chemistry II (4.00)	←	**CHEM 1B** - General Chemistry (5.00) **--- Or ---** **CHEM 1BH** - General Chemistry - HONORS (5.00)
CHEM 6C - General Chemistry III (4.00)	←	**CHEM 1C** - General Chemistry and Qualitative Analysis (5.00) **--- Or ---** **CHEM 1CH** - General Chemistry and Qualitative Analysis - HONORS (5.00)
CHEM 7L - Introductory Inorganic Chemistry Laboratory (4.00)	←	**CHEM 1B** - General Chemistry (5.00) **--- And ---** **CHEM 1C** - General Chemistry and Qualitative Analysis (5.00) **--- Or ---** **CHEM 1BH** - General Chemistry - HONORS (5.00) **--- And ---** **CHEM 1CH** - General Chemistry and Qualitative Analysis - HONORS (5.00)

CHEM 41A - Organic Chemistry I: Structure and Reactivity (4.00)	←	**CHEM 12A** - Organic Chemistry (5.00)
CHEM 41B - Organic Chemistry II: Reactivity and Synthesis (4.00)	←	**CHEM 12B** - Organic Chemistry (5.00)

CSE 8A - Introduction to Programming and Computational Problem Solving I (4.00)	←	**CIS 22A** - Beginning Programming Methodologies in C++ (4.50) **--- Or ---** **CIS 36A** - Introduction to Computer Programming Using Java (4.50) **--- Or ---** **CIS 40** - Introduction to Programming in Python (4.50)
CSE 8B - Introduction to Programming and Computational Problem Solving II (4.00)	←	**CIS 36B** - Intermediate Problem Solving in Java (4.50)
CSE 12 - Basic Data Structures and Object-Oriented Design (4.00)	←	**CIS 22C** - Data Abstraction and Structures (4.50) **--- And ---** **CIS 28** - Object Oriented Analysis and Design (4.50) **--- Or ---** **CIS 22CH** - Data Abstraction and Structures - HONORS (4.50) **--- And ---** **CIS 28** - Object Oriented Analysis and Design (4.50)
CSE 21 - Mathematics for Algorithms and Systems (4.00)	←	No Course Articulated

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CSE 11 - Introduction to Programming and Computational Problem Solving - Accelerated Pace (4.00)	←	**CIS 35A** - Java Programming (4.50) **--- Or ---** **CIS 36A** - Introduction to Computer Programming Using Java (4.50) **--- And ---** **CIS 36B** - Intermediate Problem Solving in Java (4.50)
CSE 12 - Basic Data Structures and Object-Oriented Design (4.00)	←	**CIS 22C** - Data Abstraction and Structures (4.50) **--- And ---** **CIS 28** - Object Oriented Analysis and Design (4.50) **--- Or ---** **CIS 22CH** - Data Abstraction and Structures - HONORS (4.50) **--- And ---** **CIS 28** - Object Oriented Analysis and Design (4.50)
CSE 21 - Mathematics for Algorithms and Systems (4.00)	←	No Course Articulated

PHYS 2A - Physics - Mechanics (4.00)	←	**PHYS 4A** - Physics for Scientists and Engineers: Mechanics (6.00)
PHYS 2B - Physics - Electricity and Magnetism (4.00)	←	**PHYS 4B** - Physics for Scientists and Engineers: Electricity and Magnetism (6.00)
PHYS 2C - Physics - Fluids, Waves, Thermodynamics, and Optics (4.00)	←	**PHYS 4C** - Physics for Scientists and Engineers: Fluids, Waves, Optics and Thermodynamics (6.00)

END OF AGREEMENT