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

Biomolecular Engineering and Bioinformatics B.S.

GENERAL INFORMATION FOR ALL MAJORS

All transfer applicants must satisfy University of California admissions eligibility requirements as well as meet campus selection criteria. All admission requirements must be completed by the end of spring prior to transfer. For more information on UC admissions eligibility requirements and admission to UC Santa Cruz, please visit the Admissions website: https://admissions.ucsc.edu/attend-ucsc/transfer-students.

This articulation agreement lists course-to-course, sequence-to-sequence or requirement substitutions for preparation in the major. **Transfer students are strongly encouraged to complete as many major preparatory courses as possible prior to enrolling at UCSC. Completion of all major preparatory courses is not an admissions requirement, but some majors require certain courses to be completed prior to transfer with a specified GPA, and completion or near completion of major preparatory courses will help students move more efficiently toward graduation after transfer.**

UC Santa Cruz Advanced Placement (AP) and International Baccalaureate (IB) credit policies are detailed in the link below:

UC Santa Cruz AP/IB Chart 2022-2023

BIOMOLECULAR ENGINEERING AND BIOINFORMATICS B.S.

Please visit the department's website to learn more about the major: https://undergrad.soe.ucsc.edu

ADMISSION SELECTION CRITERIA

To be considered for admission to the Biomolecular Engineering and Bioinformatics B.S. major, transfer students need to complete the equivalents of eight courses from the following list with a GPA of 2.80 or better in those courses:

BME 80G/PHIL 80G: Bioethics in the 21st Century: Science, Business, and Society

CHEM 1A: General Chemistry

CHEM 1B: General Chemistry

CHEM 1C: General Chemistry

CHEM 8A: Organic Chemistry

CHEM 8B: Organic Chemistry

BIOL 20A: Cell and Molecular Biology

MATH 19A: Calculus for Science, Engineering, and Mathematics

MATH 19B: Calculus for Science, Engineering, and Mathematics

AM 10: Mathematical Methods for Engineers I

Although not required for admission, transfer students are strongly recommended to complete at least **ten** courses from the above list if they wish to graduate in two years. Students with fewer than 10 transferable courses may find it difficult to complete the major in only two more years.

Transferring to Biomolecular Engineering

Students transferring into the biomolecular engineering concentration may also count any of the following:

PHYS 5A: Introduction to Physics I

PHYS 5B: Introduction to Physics II

BME 21L: Introduction to Basic Laboratory Techniques

AM 20: Mathematical Methods for Engineers II

Transferring to Bioinformatics

Students transferring into the bioinformatics concentration may also count any of the following:

CSE 16: Applied Discrete Mathematics

CSE 13S: Computer Systems and C Programming

CSE 30: Programming Abstractions: Python

Transfer students may use courses articulated to PHIL 22, PHIL 24, or PHIL 28 in place of BME 80G, if these courses are taken prior to registering at UC Santa Cruz.

Prospective students are encouraged to prioritize required and recommended major preparation, and may additionally complete courses that articulate to UC Santa Cruz general education requirements as time allows.

THIS IS A SCREENING MAJOR. For more information on screening major requirements please visit the Admissions website: https://admissions.ucsc.edu/posts/screening-major-selection-criteria

MAJOR PREPARATION COURSES REQUIRED FOR TRANSFER

Select 8 or more Course(s) from the following

BME 80G - Bioethics in the 21st Century: Science, Business, and Society (5.00) Same-As: PHIL 80G	←	No Course Articulated
CHEM 1A - General Chemistry (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)
CHEM 1B - General Chemistry (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)

CHEM 1C - General Chemistry (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)
CHEM 8A - Organic Chemistry (5.00)	←	**CHEM 12A** - Organic Chemistry (5.00)
CHEM 8B - Organic Chemistry (5.00)	←	**CHEM 12B** - Organic Chemistry (5.00)
BIOL 20A - Cell and Molecular Biology (5.00)	←	**BIOL 6B** - Cell and Molecular Biology (6.00)
MATH 19A - Calculus for Science, Engineering, and Mathematics (5.00)	←	**MATH 1A** - Calculus (5.00) **--- Or ---** **MATH 1AH** - Calculus - HONORS (5.00)
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)
AM 10 - Mathematical Methods for Engineers I (5.00)	←	**MATH 2B** - Linear Algebra (5.00) **--- Or ---** **MATH 2BH** - Linear Algebra - HONORS (5.00)
PHYS 5A - Introduction to Physics I (5.00)	←	**PHYS 4A** - Physics for Scientists and Engineers: Mechanics (6.00)
PHYS 5B - Introduction to Physics II (5.00)	←	**PHYS 4C** - Physics for Scientists and Engineers: Fluids, Waves, Optics and Thermodynamics (6.00)
BME 21L - Introduction to Basic Laboratory Techniques (3.00)	←	No Course Articulated
AM 20 - Mathematical Methods for Engineers II (5.00)	←	**MATH 2A** - Differential Equations (5.00) **--- Or ---** **MATH 2AH** - Differential Equations - HONORS (5.00)
CSE 16 - APPLIED DISCRETE MATHEMATICS (5.00)	←	**MATH 22** - Discrete Mathematics (5.00) **--- Or ---** **MATH 22H** - Discrete Mathematics - HONORS (5.00)
CSE 13S - Computer Systems and C Programming (7.00)	←	**CIS 22B** - Intermediate Programming Methodologies in C++ (4.50) **--- Or ---** **CIS 22BH** - Intermediate Programming Methodologies in C++ - HONORS (4.50) **--- Or ---** **CIS 26A** - C as a Second Programming Language (4.50)
CSE 30 - Programming Abstractions: Python (7.00)	←	**CIS 22C** - Data Abstraction and Structures (4.50) • *Minimum grade required: B or better* **--- Or ---** **CIS 22CH** - Data Abstraction and Structures - HONORS (4.50) • *Minimum grade required: B or better*

END OF AGREEMENT