Articulation Agreement by Major

Effective during the 2022-2023 Academic Year

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

Applied Mathematics, B.S.

GENERAL INFORMATION FOR ALL MAJORS

All transfer applicants must satisfy University of California admissions eligibility requirements as well as meeting campus admission selection criteria. Completing the UC transfer admission requirements in English and mathematics by the end of the fall term prior to the fall application quarter makes an applicant more competitive for admission to UCSB. 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 UCSB, please visit the Admissions website: www.admissions.ucsb.edu

This articulation agreement lists course-to-course or sequence-to-sequence substitutions for preparation in the major. **Transfer students are strongly encouraged to complete as many major preparatory courses as possible prior to enrolling at UCSB. 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.**

Please note that the course "equivalencies" do not necessarily apply to UCSB general education. For information concerning satisfaction of UCSB general education requirements, please refer to the General Education/Breadth articulation agreement.

Advanced Placement (AP) and **International Baccalaureate (IB)** exams may or may not be used to meet course requirements, depending on the exam. Please refer to the AP Chart and IB Chart in the UCSB General Catalog for information on how we use AP and IB exams.

TIME TO DEGREE

New UCSB students will likely need more than two years to graduate if a significant amount of lower-division Mathematics pre-major courses are not completed prior to transfer. Students should complete Calculus I, Calculus II, Linear Algebra, Differential Equations, Multivariable and/or Vector Calculus, and all preparation for the major courses before transferring to UCSB if they wish to graduate within two years after transfer.

APPLIED MATHEMATICS, B.S.

Please visit the department's website to learn more about this major: www.math.ucsb.edu

PRE-MAJOR INFORMATION

Students are admitted initially to Pre-Applied Mathematics, not directly to the major. Admission to the full major is contingent upon completion of PRE-MAJOR mathematics courses with a grade point average of 2.5 or higher in courses completed at the University of California and with no grade lower than "C". **(Only UC grades go into the pre-major GPA. Transfer courses taken outside of UC may satisfy pre-major requirements, but they are not part of the pre-major GPA.)** All pre-major courses and Computer Science 8 or 9 or 16 or Engineering 3 must also be completed with a grade of "C" or better. PREPARATION courses are excluded from the pre-major GPA, but will apply to the overall major GPA. Because the criteria are subject to annual review and revision, transfer students should consult the department directly to obtain current information regarding additional, specific criteria for admission to the full major. **Admission to the pre-major does not guarantee admission to full major status.**

ADMISSION SELECTION CRITERIA

To be admitted to the Pre-Applied Mathematics major, transfer applicants must complete the following (in addition to general admission requirements):

1. Calculus course articulating with UCSB's MATH 3A
2. Calculus course articulating with UCSB's MATH 3B
3. A third math course chosen from linear algebra (UCSB's MATH 4A), differential equations (UCSB's MATH 4B), or multivariable calculus/vector calculus (UCSB's MATH 6A-B)
4. A cumulative GPA of 2.75 or better in the required courses listed above with no individual grade lower than "C".

This is a minimum admission requirement. Students should take as many pre-major and major preparation courses as possible before transferring in order to make timely progress to graduation.

PRE-MAJOR REQUIREMENTS:

Mathematics 3A, 3B *(required prior to transfer - see **Admission Selection Criteria** above; these courses must be completed with grades of "C" or better)*

Mathematics 4A, 4B, 6A, 6B *(at least one of these courses required prior to transfer - see **Admission Selection Criteria** above; these courses must be completed with grades of "C" or better)*

Mathematics 8* *(must be completed with a grade of "C" or better)*

* *Note*: Either Math 4A, 4B, 6A, or 6B must be completed with a grade of "B" or better in order to take MATH 8 at UCSB

PREPARATION FOR THE MAJOR:

One course from Computer Science 8, 9, 16, or Engineering 3 *(must be completed with a grade of "C" or better)*

Physics 1 or 6A or 21

PRE-MAJOR REQUIREMENTS

REFER TO TOP OF AGREEMENT
Required for admission

MATH 3A - Calculus with Applications, First Course (4.00)	←	**MATH 1A** - Calculus (5.00)
• *Required for admission*		--- Or ---
		MATH 1AH - Calculus - HONORS (5.00)

REFER TO TOP OF AGREEMENT
Required for admission

MATH 3B - Calculus with Applications, Second Course (4.00)	←	**MATH 1B** - Calculus (5.00)
• *Required for admission*		--- Or ---
		MATH 1BH - Calculus - HONORS (5.00)

REFER TO TOP OF AGREEMENT

MATH 4A - Linear Algebra with Applications (4.00)	←	**MATH 2B** - Linear Algebra (5.00)
• ***REFER TO TOP OF AGREEMENT***		--- Or ---
		MATH 2BH - Linear Algebra - HONORS (5.00)

REFER TO TOP OF AGREEMENT

MATH 4B - Differential Equations (4.00)	←	**MATH 2A** - Differential Equations (5.00)
• ***REFER TO TOP OF AGREEMENT***		--- Or ---
		MATH 2AH - Differential Equations - HONORS (5.00)

REFER TO TOP OF AGREEMENT

MATH 6A - Vector Calculus with Applications, First Course (4.00)	←	**MATH 1C** - Calculus (5.00)
• ***REFER TO TOP OF AGREEMENT***		--- And ---
		MATH 1D - Calculus (5.00)
		--- Or ---
		MATH 1CH - Calculus - HONORS (5.00)
		--- And ---
		MATH 1DH - Calculus - HONORS (5.00)

REFER TO TOP OF AGREEMENT

MATH 6B - Vector Calculus with Applications, Second Course (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)

REFER TO TOP OF AGREEMENT

MATH 8 - Transition to Higher Mathematics (5.00)	←	No Course Articulated

PREPARATION FOR THE MAJOR

REFER TO TOP OF AGREEMENT

CMPSC 8 - Introduction to Computer Science (4.00)	←	**CIS 5** - Swift Programming (4.50)
		--- Or ---
		CIS 22A - Beginning Programming Methodologies in C++ (4.50)
		--- Or ---
		CIS 35A - Java Programming (4.50)
		--- Or ---
		CIS 40 - Introduction to Programming in Python (4.50)
		--- Or ---
		CIS 41A - Python Programming (4.50)

--- Or ---

CMPSC 9 - Intermediate Python Programming (4.00)	←	No Course Articulated

--- Or ---

CMPSC 16 - Problem Solving with Computers I (4.00)	←	**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)
		--- Or ---
		CIS 26B - Advanced C Programming (4.50)
		--- Or ---
		CIS 26BH - Advanced C Programming - HONORS (4.50)

--- Or ---

ENGR 3 - Introduction to Programming (3.00)	←	No Course Articulated

PHYS 1 - Basic Physics (4.00)	←	**PHYS 4A** - Physics for Scientists and Engineers: Mechanics (6.00)
		--- Or ---
PHYS 6A - Introductory Physics (3.00)	←	**PHYS 2A** - General Introductory Physics (5.00)

END OF AGREEMENT