Articulation Agreement by Major

Effective during the 2022-2023 Academic Year

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

Mathematics of Computation/B.S.

IMPORTANT MAJOR INFORMATION

Listed below are the lower division preparation courses for the major. **To be considered for this major, you must complete four semesters/five quarters calculus through multivariable and either linear algebra or differential equations by the end of spring before transfer**. All courses must be taken for a letter grade. **For more information regarding this major and UCLA's transfer selection process, visit** www.math.ucla.edu and https://admission.ucla.edu.

PLEASE NOTE: the community college courses listed below have been approved to satisfy the preparation requirements for this major at UCLA, but they may not be exact equivalents of the UCLA courses listed.

ADDITIONAL RECOMMENDED MAJOR PREPARATION

Additional recommended courses prior to transfer include: completion of the full calculus series (encompassing single variable, multivariable, linear algebra and differential equations) and one introductory course in C++.

LOWER DIVISION MAJOR REQUIREMENTS

MATH 31A - Differential and Integral Calculus (4.00)	←	**MATH 1A** - Calculus (5.00)
--- Or ---		
MATH 31AL - Differential and Integral Calculus Laboratory (5.00)	←	No Course Articulated
MATH 31B - Integration and Infinite Series (4.00)	←	**MATH 1B** - Calculus (5.00) **--- And ---** **MATH 1C** - Calculus (5.00) **--- Or ---** **MATH 1B** - Calculus (5.00) **--- And ---** **MATH 1CH** - Calculus - HONORS (5.00) **--- Or ---** **MATH 1BH** - Calculus - HONORS (5.00) **--- And ---** **MATH 1C** - Calculus (5.00) **--- Or ---** **MATH 1BH** - Calculus - HONORS (5.00) **--- And ---** **MATH 1CH** - Calculus - HONORS (5.00)
MATH 32A - Calculus of Several Variables (4.00) **--- And ---** **MATH 32B** - Calculus of Several Variables (4.00)	←	**MATH 1C** - Calculus (5.00) **--- And ---** **MATH 1D** - Calculus (5.00)
MATH 33A - Linear Algebra and Applications (4.00)	←	**MATH 2B** - Linear Algebra (5.00)
MATH 33B - Differential Equations (4.00)	←	**MATH 2A** - Differential Equations (5.00)
MATH 61 - Introduction to Discrete Structures (4.00)	←	**MATH 22** - Discrete Mathematics (5.00)

PHYSICS 1A - Physics for Scientists and Engineers: Mechanics (5.00)	←	**PHYS 4A** - Physics for Scientists and Engineers: Mechanics (6.00)

PHYSICS 1B - Physics for Scientists and Engineers: Oscillations, Waves, Electric and Magnetic Fields (5.00)	←	**PHYS 4B** - Physics for Scientists and Engineers: Electricity and Magnetism (6.00)

COMPTNG 10A - Introduction to Programming(C++) (5.00)	←	**CIS 27** - Programming in C++ for C/Java Programmers (4.50) **--- Or ---** **CIS 22A** - Beginning Programming Methodologies in C++ (4.50) **--- And ---** **CIS 22B** - Intermediate Programming Methodologies in C++ (4.50)
COMPTNG 10B - Intermediate Programming(C++) (5.00)	←	**CIS 28** - Object Oriented Analysis and Design (4.50)
COMPTNG 10C - Advanced Programming (5.00)	←	No Course Articulated

Select 1 Course(s) from the following

CHEM 20A - Chemical Structure (4.00)	←	**CHEM 1A** - General Chemistry (5.00) **--- And ---** **CHEM 1B** - General Chemistry (5.00)
CHEM 20B - Chemical Energetics and Change (4.00)	←	**CHEM 1B** - General Chemistry (5.00) **--- And ---** **CHEM 1C** - General Chemistry and Qualitative Analysis (5.00)
PHYSICS 1C - Physics for Scientists and Engineers: Electrodynamics, Optics, and Special Relativity (5.00)	←	**PHYS 4C** - Physics for Scientists and Engineers: Fluids, Waves, Optics and Thermodynamics (6.00)

END OF AGREEMENT