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

Astrophysics/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 one and a half years through multivariable calculus; one year of calculus based physics (mechanics, electricity, and magnetism) and one course in Linear Algebra by the end of spring before transfer.** It is strongly recommended that the remainder of major prep be completed prior to transfer. All courses must be taken with a letter grade by the spring before transfer. **For more information regarding this major and UCLA's transfer selection process, visit** http://www.astro.ucla.edu/ and https://admission.ucla.edu.

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

LOWER DIVISION MAJOR REQUIREMENTS

ASTR 81 - Fundamentals of Astrophysics (4.00)	←	No Course Articulated
ASTR 82 - Astrophysics II: Stellar Evolution, Galaxies, and Cosmology (4.00)	←	No Course Articulated
PHYSICS 1A - Physics for Scientists and Engineers: Mechanics (5.00) **--- And ---** **PHYSICS 1B** - Physics for Scientists and Engineers: Oscillations, Waves, Electric and Magnetic Fields (5.00) **--- And ---** **PHYSICS 1C** - Physics for Scientists and Engineers: Electrodynamics, Optics, and Special Relativity (5.00) **--- And ---** **PHYSICS 4AL** - Physics Laboratory for Scientists and Engineers: Mechanics (2.00) **--- And ---** **PHYSICS 4BL** - Physics Laboratory for Scientists and Engineers: Electricity and Magnetism (2.00)	←	**PHYS 4A** - Physics for Scientists and Engineers: Mechanics (6.00) **--- And ---** **PHYS 4B** - Physics for Scientists and Engineers: Electricity and Magnetism (6.00) **--- And ---** **PHYS 4C** - Physics for Scientists and Engineers: Fluids, Waves, Optics and Thermodynamics (6.00)
PHYSICS 17 - Modern Physics (4.00)	←	**PHYS 4D** - Physics for Scientists and Engineers: Modern Physics (6.00) **PHYS 4D** - Physics for Scientists and Engineers: Modern Physics (6.00)
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
--- And ---		

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)

--- And ---

Select 1 Course(s) from the following

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)
--- Or ---		
COM SCI 30 - Principles and Practices of Computing (4.00)	←	No Course Articulated
--- Or ---		
COM SCI 31 - Introduction to Computer Science I (4.00)	←	**CIS 22A** - Beginning Programming Methodologies in C++ (4.50) **--- Or ---** **CIS 22BH** - Intermediate Programming Methodologies in C++ - HONORS (4.50) **--- Or ---** **CIS 27** - Programming in C++ for C/Java Programmers (4.50) **--- Or ---** **CIS 22B** - Intermediate Programming Methodologies in C++ (4.50) **--- Or ---** **CIS 29** - Advanced C++ Programming (4.50)

RECOMMENDED COURSES

CHEM 20A - Chemical Structure (4.00)	←	**CHEM 1A** - General Chemistry (5.00) **--- And ---** **CHEM 1B** - General Chemistry (5.00)

END OF AGREEMENT