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

Marine Biology/B.S.

IMPORTANT MAJOR INFORMATION

Listed below are the lower division major preparation courses for the major as well as important details to review. **THIS MAJOR IS HIGHLY SELECTIVE. To be considered for admission, you must complete one year of biology with laboratory, one year of general chemistry with laboratory, one year of calculus and one semester of organic chemistry with laboratory by the end of the spring before transfer. Completion of a second semester of organic chemistry or one year of calculus-based physics is strongly recommended.** If your college does not offer a two semester or three quarter sequence in calculus-based physics, it is recommended that you complete Physics 5ABC at UCLA after you transfer. All courses must be taken for a letter grade. **For more information regarding this major and UCLA's transfer selection process, visit** www.eeb.ucla.edu/undergraduate.php 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 NOTES

- **UCLA's life science majors require the completion of extensive preparatory coursework prior to transfer, therefore, you *must* be admitted directly into a life science major; you will *not* be able to change from a non-life science major into a life science major after admission to UCLA.**
- **Students who have placed out of UCLA's Math 31A course based on AP/IB credit may be required to complete UCLA's Math 3C, 32A or an equivalent course after transfer.**
- **The Calculus for Life Sciences courses listed below have been approved as substitutes for UCLA's Math 3ABC series through Spring 2019. However, students may be required to complete additional math courses after transfer to satisfy this major requirement.**
- **The community college statistics course included on this agreement has been approved as a substitute for Statistics 13, however it may not transfer as an exact UCLA equivalent.**

LOWER DIVISION MAJOR REQUIREMENTS

LIFESCI 7A - Cell and Molecular Biology (5.00)	←	**BIOL 6B** - Cell and Molecular Biology (6.00)
LIFESCI 7B - Genetics, Evolution, and Ecology (5.00)	←	**BIOL 6C** - Ecology and Evolution (6.00) **--- Or ---** **BIOL 6CH** - Ecology and Evolution - HONORS (6.00)
LIFESCI 7C - Physiology and Human Biology (5.00)	←	**BIOL 6A** - Form and Function in the Biological World (6.00)
LIFESCI 23L - Introduction to Laboratory and Scientific Methodology (3.00)	←	**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 6A** - Form and Function in the Biological World (6.00) **--- And ---** **BIOL 6B** - Cell and Molecular Biology (6.00) **--- And ---** **BIOL 6CH** - Ecology and Evolution - HONORS (6.00)

CHEM 20A - Chemical Structure (4.00)
--- And ---
CHEM 20B - Chemical Energetics and Change (4.00)
--- And ---
CHEM 20L - General Chemistry Laboratory (3.00)
--- And ---
CHEM 30AL - General Chemistry Laboratory II (4.00)

←

CHEM 1A - General Chemistry (5.00)
--- And ---
CHEM 1B - General Chemistry (5.00)
--- And ---
CHEM 1C - General Chemistry and Qualitative Analysis (5.00)

Select 1 Sequence(s) from the following

MATH 3A - Calculus for Life Sciences Students (4.00) ← No Course Articulated
--- And ---
MATH 3B - Calculus for Life Sciences Students (4.00) ← No Course Articulated
--- And ---
MATH 3C - Ordinary Differential Equations with Linear Algebra for Life Sciences Students (4.00) ← No Course Articulated

--- Or ---

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)

--- And ---
MATH 32A - Calculus of Several Variables (4.00) ← **MATH 1C** - Calculus (5.00)

--- Or ---

LIFESCI 40 - Statisitics of Biological Systems (5.00) ← No Course Articulated
--- Or ---
STATS 13 - Introduction to Statistical Methods for Life and Health Sciences (5.00) ← **MATH 10** - Introductory Statistics (5.00)

PHYSICS 5A - Physics for Life Sciences Majors: Mechanics, and Energy (5.00) **--- And ---** **PHYSICS 5B** - Physics for Life Sciences Majors: Thermodynamics, Fluids, Waves, Light, and Optics (5.00) **--- And ---** **PHYSICS 5C** - Physics for Life Sciences Majors: Electricity, Magnetism, and Modern Physics (5.00)	←	**PHYS 2A** - General Introductory Physics (5.00) **--- And ---** **PHYS 2B** - General Introductory Physics (5.00) **--- And ---** **PHYS 2C** - General Introductory Physics (5.00)
--- Or ---		
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)

CHEM 30A - Organic Chemistry I: Structure and Reactivity (4.00) **--- And ---** **CHEM 30B** - Organic Chemistry II: Reactivity, Synthesis, and Spectroscopy (4.00) **--- And ---** **CHEM 30BL** - Organic Chemistry Laboratory I (3.00) **--- And ---** **CHEM 30C** - Organic Chemistry III: Reactivity, Synthesis, and Biomolecules (4.00) **--- And ---** **CHEM 30CL** - Organic Chemistry Laboratory II (4.00)	←	**CHEM 12A** - Organic Chemistry (5.00) **--- And ---** **CHEM 12B** - Organic Chemistry (5.00) **--- And ---** **CHEM 12C** - Organic Chemistry (5.00)

A&O SCI 1 - Climate Change: From Puzzles to Policy (4.00)	←	No Course Articulated
--- Or ---		
EPS SCI 15 - Blue Planet: Introduction to Oceanography (5.00)	←	No Course Articulated

CHEM 153A - Biochemistry: Introduction to Structure, Enzymes, and Metabolism (4.00) **--- And ---** **CHEM 153L** - Biochemical Methods I (4.00)	←	No Course Articulated

END OF AGREEMENT