

Articulation Agreement by Major

Effective during the 2022-2023 Academic Year

To: University of California, Berkeley
2022-2023 General Catalog, Semester

From: De Anza College
2022-2023 General Catalog, Quarter

Molecular and Cell Biology, Lower Division B.A.

COLLEGE OF LETTERS AND SCIENCE

COLLEGE ADMISSION REQUIREMENTS FOR TRANSFER STUDENTS THIS MAJOR IS OFFERED BY THE COLLEGE OF LETTERS AND SCIENCE (L&S).

By the end of the spring term preceding fall enrollment at Berkeley, you must complete:

- 1) The L&S Requirements in Reading & Composition, Quantitative Reasoning, and Foreign Language; **OR**
- 2) IGETC

Major Requirements:

Complete as many lower division major requirements as possible. See details on preparation for this major below.

Primary selection criteria for admission, in general:

- completion of L&S Requirements (or IGETC), plus
- strength of academic preparation, and
- grade point average.

For more information on admission to UC Berkeley:

<http://admissions.berkeley.edu>

For more information on majors at UC Berkeley:

Berkeley Academic Guide: <http://guide.berkeley.edu>

REQUIREMENTS

MINIMUM ADMISSION REQUIREMENTS

You **must complete** all lower-division requirements, with the exception of physics, before transfer.
Complete the equivalent of:

BIOLOGY 1A, BIOLOGY 1AL, + BIOLOGY 1B

CHEMISTRY 1A & CHEMISTRY 1AL

(If interested in track 2 of the Biochemistry & Molecular Biology emphasis, Biological Chemistry, you must also complete the equivalent of CHEMISTRY 1B)

CHEMISTRY 3A, 3AL, 3B, + 3BL

Any two equivalent courses of MATH 1A + MATH 1B + MATH 53 + MATH 54 + MATH 55

Although it is not required for admission, we **strongly recommend** that you complete one year of calculus-based physics with lab prior to transfer because it may be difficult to enroll in these courses at Berkeley.

Complete the equivalent of:

PHYSICS 8A + PHYSICS 8B or

PHYSICS 7A + PHYSICS 7B

Note: PHYSICS 7C is OPTIONAL for this major

AP/IB information for the major in Molecular and Cell Biology for transfer students:

- Score of 4 or 5 on AP Chemistry satisfies CHEMISTRY 1A/1AL
- Score of 4 or 5 on AP Biology satisfies BIOLOGY 1A/1AL + BIOLOGY 1B
- Score of 5, 6, or 7 on IB Chemistry satisfies Chemistry 1A/1AL
- Score of 5, 6, or 7 on IB Biology satisfies Biology 1B only

The Molecular and Cell Biology Undergraduate Office discourages the use of AP, IB, or A-Level credit to waive lower-division courses. Lack of such coursework at the college level could result in poor performance in upper-division MCB courses. In addition, many health-related graduate and professional programs will not accept AP/IB scores in lieu of coursework completed at a college or university.

The Molecular and Cell Biology major has five emphases. The lower-division requirements are the same for all major emphases except Track 2 of Biochemistry & Molecular Biology (Biological Chemistry) which additionally requires CHEMISTRY 1B.

1. Biochemistry and Molecular Biology
 - Track 1 - Biochemistry & Molecular Biology
 - Track 2 - Biological Chemistry

2. Cell & Developmental Biology
 - Track 1 - Cell & Systems Biology
 - Track 2 - Medical Biology & Physiology
3. Genetics, Genomics, & Development
 - Track 1 - Genetics, Genomics, & Development
 - Track 2 - Developmental Genetics
4. Immunology and Pathogenesis
 - Track 1 - Immunology
 - Track 2 - Infectious Diseases
5. Neurobiology

For more information on the major in Molecular and Cell Biology:
<http://mcb.berkeley.edu/undergrad/>

BIOLOGY

BIOLOGY 1A - General Biology Lecture (Cells, Genetics, Animal Form & Function) (3.00)

--- And ---

BIOLOGY 1AL - General Biology Laboratory (2.00)



BIOL 6A - Form and Function in the Biological World (6.00)

--- And ---

BIOL 6B - Cell and Molecular Biology (6.00)

--- Or ---

BIOL 6AH - Form and Function in the Biological World - HONORS (6.00)

--- And ---

BIOL 6B - Cell and Molecular Biology (6.00)

BIOLOGY 1B - General Biology (Plant Form & Function, Ecology, Evolution) (4.00)



BIOL 6A - Form and Function in the Biological World (6.00)

--- And ---

BIOL 6C - Ecology and Evolution (6.00)

--- Or ---

BIOL 6AH - Form and Function in the Biological World - HONORS (6.00)

--- And ---

BIOL 6C - Ecology and Evolution (6.00)

--- Or ---

BIOL 6A - Form and Function in the Biological World (6.00)

--- And ---

BIOL 6CH - Ecology and Evolution - HONORS (6.00)

--- Or ---

BIOL 6AH - Form and Function in the Biological World - HONORS (6.00)

--- And ---

BIOL 6CH - Ecology and Evolution - HONORS (6.00)

--- Or ---

BIOLOGY 1A - General Biology Lecture (Cells, Genetics, Animal Form & Function) (3.00)

--- And ---

BIOLOGY 1AL - General Biology Laboratory (2.00)

--- And ---

BIOLOGY 1B - General Biology (Plant Form & Function, Ecology, Evolution) (4.00)



Articulates as Course-to-Course Only

CHEMISTRY

CHEM 1A - General Chemistry (3.00)
--- And ---
CHEM 1AL - General Chemistry Laboratory (2.00)

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CHEM 1B - General Chemistry (4.00)
• ****REFER TO TOP OF AGREEMENT****

← Articulates as a Series Only

--- Or ---

CHEM 1A - General Chemistry (3.00)
--- And ---
CHEM 1AL - General Chemistry Laboratory (2.00)
--- And ---
CHEM 1B - General Chemistry (4.00)

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CHEM 1A - General Chemistry (5.00)
--- And ---
CHEM 1B - General Chemistry (5.00)
--- And ---
CHEM 1C - General Chemistry and Qualitative Analysis (5.00)
• *Regular and honors courses may be combined to complete this series*

--- 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)
• *Regular and honors courses may be combined to complete this series*

CHEM 3A - Chemical Structure and Reactivity (3.00)
--- And ---
CHEM 3AL - Organic Chemistry Laboratory (2.00)

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CHEM 12A - Organic Chemistry (5.00)
--- And ---
CHEM 12B - Organic Chemistry (5.00)

CHEM 3B - Chemical Structure and Reactivity (3.00)
--- And ---
CHEM 3BL - Organic Chemistry Laboratory (2.00)

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CHEM 12B - Organic Chemistry (5.00)
--- And ---
CHEM 12C - Organic Chemistry (5.00)

--- Or ---

CHEM 3A - Chemical Structure and Reactivity (3.00)
--- And ---
CHEM 3AL - Organic Chemistry Laboratory (2.00)
--- And ---
CHEM 3B - Chemical Structure and Reactivity (3.00)
--- And ---
CHEM 3BL - Organic Chemistry Laboratory (2.00)

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Articulates as Course-to-Course Only

MATHEMATICS

Select 2 Course(s) from the following

MATH 1A - Calculus (4.00)

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MATH 1A - Calculus (5.00)
--- And ---
MATH 1B - Calculus (5.00)
• *Regular and honors courses may be combined to complete this series*

--- Or ---

MATH 1AH - Calculus - HONORS (5.00)
--- And ---
MATH 1BH - Calculus - HONORS (5.00)
• *Regular and honors courses may be combined to complete this series*

MATH 1B - Calculus (4.00)	<div>←</div> <div> MATH 1B - Calculus (5.00) <div>--- And ---</div> MATH 1C - Calculus (5.00) <ul style="list-style-type: none"> <i>Regular and honors courses may be combined to complete this series</i> </div> <div> --- Or --- </div> <div> MATH 1BH - Calculus - HONORS (5.00) <div>--- And ---</div> MATH 1CH - Calculus - HONORS (5.00) <ul style="list-style-type: none"> <i>Regular and honors courses may be combined to complete this series</i> </div>
MATH 53 - Multivariable Calculus (4.00)	<div>←</div> <div> MATH 1C - Calculus (5.00) <div>--- And ---</div> MATH 1D - Calculus (5.00) <ul style="list-style-type: none"> <i>Regular and honors courses may be combined to complete this series</i> </div> <div> --- Or --- </div> <div> MATH 1CH - Calculus - HONORS (5.00) <div>--- And ---</div> MATH 1DH - Calculus - HONORS (5.00) <ul style="list-style-type: none"> <i>Regular and honors courses may be combined to complete this series</i> </div>
MATH 54 - Linear Algebra and Differential Equations (4.00)	<div>←</div> <div> MATH 2A - Differential Equations (5.00) <div>--- And ---</div> MATH 2B - Linear Algebra (5.00) <ul style="list-style-type: none"> <i>Regular and honors courses may be combined to complete this series</i> </div> <div> --- Or --- </div> <div> MATH 2AH - Differential Equations - HONORS (5.00) <div>--- And ---</div> MATH 2BH - Linear Algebra - HONORS (5.00) <ul style="list-style-type: none"> <i>Regular and honors courses may be combined to complete this series</i> </div>
MATH 55 - Discrete Mathematics (4.00)	<div>←</div> <div> MATH 22 - Discrete Mathematics (5.00) <div>--- Or ---</div> MATH 22H - Discrete Mathematics - HONORS (5.00) </div>

PHYSICS

PHYSICS 8A - Introductory Physics (4.00)	
	<div>←</div> <div> PHYS 4A - Physics for Scientists and Engineers: Mechanics (6.00) <div>--- And ---</div> PHYS 4B - Physics for Scientists and Engineers: Electricity and Magnetism (6.00) </div> <div> --- Or --- </div> <div> PHYS 2A - General Introductory Physics (5.00) <div>--- And ---</div> PHYS 2C - General Introductory Physics (5.00) </div>

PHYSICS 8B - Introductory Physics (4.00)

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PHYS 4C - Physics for Scientists and Engineers: Fluids, Waves, Optics and Thermodynamics (6.00)

--- And ---

PHYS 4D - Physics for Scientists and Engineers: Modern Physics (6.00)

--- Or ---

PHYS 2B - General Introductory Physics (5.00)

--- And ---

PHYS 2C - General Introductory Physics (5.00)

--- Or ---

PHYSICS 8A - Introductory Physics (4.00)

--- And ---

PHYSICS 8B - Introductory Physics (4.00)

← Articulates as Course-to-Course Only

--- Or ---

PHYSICS 7A - Physics for Scientists and Engineers (4.00)

← PHYS 4A - Physics for Scientists and Engineers: Mechanics (6.00)

PHYSICS 7B - Physics for Scientists and Engineers (4.00)

←

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)

--- Or ---

PHYSICS 7A - Physics for Scientists and Engineers (4.00)

--- And ---

PHYSICS 7B - Physics for Scientists and Engineers (4.00)

← Articulates as Course-to-Course Only

--- Or ---

PHYSICS 7A - Physics for Scientists and Engineers (4.00)

--- And ---

PHYSICS 7B - Physics for Scientists and Engineers (4.00)

--- And ---

PHYSICS 7C - Physics for Scientists and Engineers (4.00)

← Articulates as Course-to-Course Only

END OF AGREEMENT