College Admission Requirements for Transfer Students

This major is offered by the College of Natural Resources.

PROGRAM

Microbial Biology is located in UC Berkeley's College of Natural Resources, within the Department of Plant and Microbial Biology. Microbial Biology is a pivotal field of study because small life forms such as microbes, viruses, and fungi make up the majority of planetary biomass, and constitute key branches of the Tree of Life. Microbes play fundamental roles in maintaining biosphere health: they degrade environmental pollutants; they supply essential nutrients and chemicals directly to multi-cellular organisms, and they engage in numerous beneficial symbioses with higher organisms. Infectious diseases regulate populations of plant and animals, and outbreaks recur in human societies globally.

The major investigates interactions between microorganisms and the environment to determine the role microbes play in maintaining the health of our biosphere. This includes how microbes can help combat environmental pollutants, facilitate energy production, and influence the progress of medical research on infectious diseases.

PREPARATION FOR TRANSFER AT THE JUNIOR LEVEL

Transfer applicants must complete the minimum admissions requirements by the end of the spring term preceding fall enrollment at Berkeley, and are encouraged to complete as many additional lower division requirements as possible. Exceptions are highly unlikely.

Please pay particular attention to how courses from your community college articulate to Berkeley. If courses for a particular subject are articulated as a group (for example, a 3-course series at your college may articulate to a 2-course series at Berkeley), you will need to take all of the courses noted in order for the articulation to work. If you have questions about articulation, please contact our Office of Instruction and Student Affairs, College of Natural Resources, http://nature.berkeley.edu

In general, students will be evaluated on:
- The strength of academic preparation and the completion of lower division requirements in biology, chemistry, and math
- GPA in the required courses
- Cumulative GPA
- The personal statement

MINIMUM ADMISSION REQUIREMENTS
To: UC Berkeley, From: Santa Monica College, 18-19

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Microbial Biology, Lower Division B.S. (continued)

Equivalent of:

English R1A and English R1B
Biology 1A and 1AL
Biology 1B
Chemistry 1A and 1AL
Chemistry 3A and 3AL
Chemistry 3B and 3BL
Math 16A (or Math 1A or Math 10A)
Math 16B (or Math 1B or Math 10B)

Strongly recommended courses:
Physics 8A (or Physics 7A) and Statistics 2 (or Statistics 20) are strongly recommended.

Although IGETC is not required, certification will fulfill requirements for English R1A, English R1B and all Humanities and Social Sciences breadth courses.

AP Credit - We will accept the following AP credit:

Math 16A = AP Math AB, score of 3, 4, or 5 OR AP Math BC, Score of 3, 4, or 5
Math 16B = AP Math BC, score of 5
Chem 1A and 1AL = AP Chemistry, score of 4 or 5
Physics 8A = AP Physics B, score of 3, 4 or 5
Statistics Requirement = AP Statistics, score 3, 4, or 5

Humanities and Social Science AP test scores of 3 or higher may also be counted towards the 15-unit Humanities requirement.

Please note that substituting AP scores for science and math coursework is accepted, but not recommended. Students who use AP scores for these requirements may struggle in subsequent coursework.

Please refer to the College of Natural Resources Handbook for more information about substitutions for the ENGLISH R1A and R1B requirements:
https://nature.berkeley.edu/handbook

For more information:
MB Student Academic Advisor
Office of Instruction and Student Affairs
260 Mulford Hall
College of Natural Resources
510) 642-0542
e-mail: cnrteaching@berkeley.edu

http://nature.berkeley.edu/advising/majors/microbial-biology

For more information on the College of Natural Resources
http://nature.berkeley.edu
To: UC Berkeley, From: Santa Monica College, 18-19

Microbial Biology, Lower Division B.S. (continued)

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

<table>
<thead>
<tr>
<th>BIOL 1A</th>
<th>General Biology</th>
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<th>BIOL 21</th>
<th>Cell Biology and Evolution</th>
<th>(4)</th>
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<td>Lecture (Cells, Genetics, Animal Form &amp; Function)</td>
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<td>BIOL 22</td>
<td>Genetics and Molecular Biology</td>
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<td>BIOL 1AL</td>
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<td>Laboratory</td>
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<td>BIOL 1B</td>
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<td>(Plant Form &amp; Function, Ecology, Evolution)</td>
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CHEMISTRY

Must complete chemistry courses prior to transferring.

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<tr>
<th>CHEM 1A</th>
<th>General Chemistry</th>
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<th>CHEM 11</th>
<th>General Chemistry I</th>
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<td>General Chemistry II</td>
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CHEM 3A & Chemical Structure and Reactivity | (3) | CHEM 21 | Organic Chemistry I | (5) |
| CHEM 3AL | Organic Chemistry | (2) | | | |
| Laboratory | | | | | |

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CHEM 3B & Chemical Structure and Reactivity | (3) | CHEM 22 | Organic Chemistry II | (4) |
| CHEM 3BL | Organic Chemistry | (2) | CHEM 24 | Organic Chemistry II | (2) |
| Laboratory | | | | | |

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MATHEMATICS

Must complete math courses prior to transferring.

UCB MATH 16A + MATH 16B OR MATH 1A + MATH 1B OR MATH 10A + MATH 10B

<table>
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<tr>
<th>MATH 16A</th>
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<th>MATH 7</th>
<th>Calculus 1</th>
<th>(5)</th>
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<td>MATH 16B</td>
<td>Analytic Geometry and Calculus</td>
<td>(3)</td>
<td>MATH 8</td>
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<table>
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<th>Calculus 1</th>
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<td>(4)</td>
<td>MATH 8</td>
<td>Calculus 2</td>
<td>(5)</td>
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-- OR --
Microbial Biology, Lower Division B.S. (continued)

MATH 10A Methods of Mathematics: (4)|NO COURSE ARTICULATED
| Calculus, Statistics, and
| Combinatorics

MATH 10B Methods of Mathematics: (4)|NO COURSE ARTICULATED
| Calculus, Statistics, and
| Combinatorics

PHYSICS

NOTE: It is highly recommended that you complete the Physics requirement prior to transferring. If an equivalent to PHYSCIS 8A is unavailable, student should complete Physics 7A.

PHYSICS 8A Introductory Physics (4)|PHYSCS 8 Calculus-Based Physics (4)
| 1 with Lab

OR

PHYSICS 7A Physics for Scientists and Engineers (4)|PHYSCS 21 &
| PHYSCS 23 Mechanics with Lab (5)
| Fluids, Waves, (5)
| Thermodynamics,
| Optics with Lab

NOTE: This institution may cover the topics in Berkeley's PHYSICS 7ABC series in a different order. Students who transfer before completing courses equivalent to the entire 7ABC series may need to enroll in Berkeley's PHYSICS 49 to complete missing topics such as wave motion (7A) or heat (7B).

STATISTICS

NOTE: It is highly recommended that you complete the Statistics requirement prior to transferring.

STAT 2 Introduction to Statistics (4)|MATH 54 Elementary Statistics (4)
| OR

STAT C8 Foundations of Data Science (4)|NO COURSE ARTICULATED
| OR

STAT 20 Introduction to Probability and Statistics (4)|NO COURSE ARTICULATED

NOTE: STAT 20 at Berkeley has a prerequisite of one semester of calculus.

HUMANITIES AND SOCIAL SCIENCES BREADTH

At least 15 semester units of UC-transferable courses from fields such as economics, history, philosophy, art, music, political science, and/or foreign language (a maximum of 6 units allowed). (IGETC satisfies this requirement)

READING & COMPOSITION

Must complete Reading and Composition requirement prior to transferring. (IGETC satisfies this requirement)

ENGLISH R1A Reading and Composition (4)|ENGL 1 Reading and Composition (3)
| I

ENGLISH R1B Reading and Composition (4)|ENGL 2 Critical Analysis and Composition (3)
| Intermediate
| OR
Microbial Biology, Lower Division B.S. (continued)

| ENGL 31       | Advanced Composition | (3) |

END OF MAJOR