

**Executive Committee
College of Natural and Agricultural Science
Report to Riverside Division**

To be adopted:

Proposed changes to the undergraduate major requirements in Microbiology

PRESENT:

Major Requirements

Some of the following requirements for the Microbiology major may also fulfill the College's breadth requirements. Consult with an advisor for course planning.

1. Core Curriculum (72-77 units)

Students must complete all required core curriculum courses with a grade of "C-" or better and with a cumulative GPA in the courses of at least 2.0. Grades of "D" or "F" in two required courses, either separate courses or repetitions of the same course, are grounds for discontinuation from the major.

a) BIOL 005A, BIOL 05LA or BIOL 020, BIOL 005B, BIOL 005C

b) CHEM001A, CHEM 001B, CHEM 001C, CHEM 01LA, CHEM 01LB, CHEM 01LC

c) CHEM 008A and 08LA or CHEM 08HA and CHEM 8HLA, CHEM 008B and CHEM 08LB or CHEM 08HB and CHEM 8HLB, CHEM 008C and CHEM 08LC or CHEM 08HC and CHEM 8HLC

d) PHYS 002A, PHYS 002B, PHYS 002C, PHYS 02LA, PHYS 02LB, PHYS 02LC

e) MATH 007A or MATH 009A, MATH 007B or MATH 009B

f) STAT 100A

g) BCH 100, or BCH 110A and BCH 110B

PROPOSED:

Major Requirements

No Change

1. No Change

a) No Change

b) No Change

c) No Change

d) PHYS 002A or PHYS 002HA, PHYS 002B or PHYS 002HB, PHYS 002C or PHYS 002HC, PHYS 02LA or PHYS 02HLA, PHYS 02LB or PHYS 02HLB, PHYS 02LC or PHYS 02HLC

e) No Change

f) No Change

g) BCH 100, or BCH 110A or BCH 110HA and BCH 110B or BCH 110HB

2. Upper-Division Requirements (37 units)

a) Major Core (19 units): BIOL 102, BIOL 107A, MCBL 121/BIOL 121, MCBL 121L/BIOL 121L, MCBL 125

b) Major Electives. A minimum of 18 units from the following to be selected in consultation with a faculty advisor: BIOL 128/CBNS 128, BIOL 157, BIOL 158, CBNS 101, ENSC 120/NEM 120, MCBL 120/BIOL 120/PLPA 120, MCBL 120L/BIOL 120L/PLPA 120L, MCBL 122/BIOL 122, MCBL 123/BIOL 123/PLPA 123, MCBL 124/BIOL 124, MCBL 141/ENSC 141, MCBL 197, PLPA 134/BIOL 134, PLPA 134L/BIOL 134L

3. Other Requirements

For the Bachelor of Science degree, an additional 16 units in upper-division microbiology courses and/or substantive courses in a field or fields related to the major. Acceptable courses include ~~BCH 102, BCH 440C~~, BIOL 107B, BIOL 109, BIOL 119, ENSC 133/MCBL 133, MCBL 190, MCBL 198-I3; a more complete list of acceptable courses is available at the CNAS Undergraduate Academic Advising Center.

For the Bachelor of Arts degree, the foreign language requirement may be fulfilled by completing level-four coursework or by demonstrating the equivalent proficiency in one foreign language.

4. Bachelor of Science Sample Program¹

Freshman Year	Fall	Winter	Spring
BIOL 005A, BIOL 005LA or BIOL 020, BIOL 005B		5	4

2. Upper-Division Requirements (37 units)

a) No Change

b) Major Electives. A minimum of 18 units from the following to be selected in consultation with a faculty advisor: BIOL 128/CBNS 128, BIOL 157, BIOL 158, CBNS 101, ENSC 120/NEM 120, MCBL 120/BIOL 120/PLPA 120, MCBL 120L/BIOL 120L/PLPA 120L, MCBL 122/BIOL 122, MCBL 123/BIOL 123/PLPA 123, MCBL 124/BIOL 124, MCBL 126, MCBL 141/ENSC 141, MCBL 190², MCBL 197², PLPA 134/BIOL 134, PLPA 134L/BIOL 134L

3. Other Requirements

For the Bachelor of Science degree, an additional 16 units in upper-division microbiology courses and/or substantive courses in a field or fields related to the major. Acceptable courses include BCH 162, BIOL 107B, BIOL 109, BIOL 119, ENSC 133/MCBL 133, MCBL 198-I³; a more complete list of acceptable courses is available at the CNAS Undergraduate Academic Advising Center.

No Change

4. Bachelor of Science Sample Program¹

Freshman Year	Fall	Winter	Spring
No Change			
No Change			

CHEM 001A, CHEM 001B, CHEM 001C,	4	4	4
CHEM 01LA, CHEM 01LB, CHEM 01LC	1	1	1
ENGL 001A, ENGL 001B	4		4
Humanities/Social Sciences			4
MATH07A or MATH 9A, MATH 7B or MATH 9B	4	4	

No Change			
No Change			
No Change			
No Change			
No Change			

NASC 093	2		
Total Units	15	14	17
Sophomore Year	Fall	Winter	Spring
STAT 100A			5
BIOL 005C	4		
CHEM 008A and 08LA or CHEM 08HA and CHEM 8HLA, CHEM 008B and CHEM 08LB or CHEM 08HB and CHEM 8HLB, CHEM 008C and CHEM 08LC or CHEM	4	4	4

No Change			
Total Units	15	14	17
Sophomore Year	Fall	Winter	Spring
No Change			
No Change			
No Change			

08HC and CHEM 8HLC			
Elective		4	
Humanities/Social Sciences		4	
PHYS 002A, PHYS 002B, PHYS 002C	4	4	4
PHYS 02LA, PHYS 02LB, PHYS 02LC	1	1	1
Total Units	13	17	14
Junior Year	Fall	Winter	Spring
BCH 100	4		
Humanities/Social Sciences	4	4	4
BIOL 102		4	
MCBL 121		4	
MCBL 121L			3
PHIL 0094	4		
Major Electives & Other Reqs			7

No Change			
No Change			
PHYS 002A or PHYS 002HA, PHYS 002B or PHYS 002HB, PHYS 002C or PHYS 002HC	4	4	4
PHYS 02LA or PHYS 02HLA, PHYS 02LB or PHYS 02HLB, PHYS 02LC or PHYS 02HLC	1	1	1
Total Units	13	17	14
Junior Year	Fall	Winter	Spring
No Change			
No Change			
No Change			
No Change			
No Change			
PHIL 009 ^d	4		

Elective	4	4	
Total Units	16	16	14
Senior Year	Fal l	Winte r	Sprin g
BIOL 107A	4		
MCBL 125			4
Major Electives & Other Reqs.	8	8	7
MCBL 197	3	3	3
ENGL 001C		4	
Total Units	15	15	14

No Change			
No Change			
Total Units	16	16	14
Senior Year	Fall	Winter	Spring
No Change			
No Change			
No Change			
No Change			
No Change			
Total Units	15	15	14

Notes:

1

Some students will take courses in summer session to (i) reduce the unit load during the normal academic year (ii) complete the degree requirements in less than four years or (iii) enable the acquisition of a minor or double major in four years.

2

No more than 4 units can be applied toward the Major Electives unit requirement, unless approved by the Microbiology Steering Committee.

3

No more than 4 units can be applied toward the Other Requirements unit requirement, unless approved by the Microbiology Steering Committee.

4

Students are encouraged to take a class in

Notes:

¹Some students will take courses in summer session to (i) reduce the unit load during the normal academic year (ii) complete the degree requirements in less than four years or (iii) enable the acquisition of a minor or double major in four years.

²No more than 4 units of either MCBL 190 or MCBL 197 can be applied toward the Major Electives unit requirement, unless approved by the Microbiology Steering Committee.

³No more than 4 units can be applied toward the Other Requirements unit requirement, unless approved by the Microbiology Steering Committee.

⁴Students are encouraged to take a class in

ethics

ethics

Justification:

BCH102 is being removed because it is no longer being taught. BCH110C is also being removed because content is not relevant enough for the MCBL major any longer. We are adding MCBL 126 (Microbiomes) to our program because it is a new upper division course that has content that is relevant for the MCBL major. BCH 162 (Advanced Biochemistry Laboratory) is also being added to our program because its content is relevant to our MCBL major. The PHYS and BCH honors class were added to our MCBL major because they have been recently created and are equivalent to the non-honors courses. The Microbiology major requests MCBL 190 be one of the Upper-Division Major Electives. This course allows students to earn credit for educational experiences that are not included in our current courses. For example, if a student has an interest in a topic in microbiology that is not covered by one of our courses, that student could perform an independent study on that topic under the guidance of one of our faculty members. They then could, for example, write a paper reviewing that topic as part of their educational experience and grade.

Approvals:

Approved by the faculty of the Department of Microbiology:	November 30, 2017
Approved by the Executive Committee of the College of Natural and Agricultural Sciences:	May 22, 2018
Approved by the Committee on Educational Policy:	June 19, 2018