To be adopted: Proposed changes to the B.S. and B.A Plant Biology major.

**PRESENT:**
Major
The mission of the interdepartmental Undergraduate Program in Plant Biology is to provide students with a solid background in modern principles and research practices of basic Plant Biology and in their area of specialization. Courses prerequisite to the major, courses used to satisfy major requirements, and the 11 units (for B.S. degree) related to the major must be taken for letter grades. Students may elect to take other courses on a Satisfactory (S)/No Credit (NC) basis. Refer to the Academic Regulations section of this catalog for additional information on “S/NC” grading. Information about this program is available on the CNAS UAAC website at cnasstudent.ucr.edu.

Transfer Students
Students planning to transfer to UCR with a major in Plant Biology must have a minimum GPA of 2.7 in transferable college courses and “C” or higher grades in a year sequence of general chemistry and in courses equivalent to our BIOL 005A, BIOL 005B. We also recommend that transfer students complete a year of college calculus before admission. Exceptions may be granted by the faculty advisor.

**PROPOSED:**
No Change

Transfer Students
Students planning to transfer to UCR with a major in Plant Biology must have a minimum GPA of 2.7 in transferable college courses and “C” or higher grades in a year sequence of general chemistry and in courses equivalent to our BIOL 005A, BIOL 005B. We also require that transfer students complete two quarters of college calculus (equivalent to our MATH 7A&B or our MATH 9A&B) before admission. Exceptions may be granted by the faculty advisor.

University Requirements
See Undergraduate Studies section.

College Requirements
See College of Natural and Agricultural Sciences, Colleges and Programs section. Some of the following requirements for the major may also fulfill some of the college’s breadth

No Change
requirements. Consult with a department advisor for course planning.

**Major Requirements**
The major requirements for the B.S. and B.A. degrees in Plant Biology are as follows:

1. *Life Sciences core requirements (69-73 units)*

Students must complete all required courses with a grade of “C-” or better and with a cumulative GPA in the core courses of at least 2.0. Grades of “D” or “F” in two core 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) CHEM 001A, CHEM 01LA, CHEM 001B, CHEM 01LB, CHEM 001C, CHEM 01LC
- c) CHEM 008A and CHEM 08LA or CHEM 008HA and CHEM 008HLA or CHEM 12A, CHEM 008B and CHEM08LB or CHEM 008HB and CHEM 008HLB or CHEM 12B, CHEM 008C and CHEM 008LC or CHEM 008HC and CHEM 008HLC
- d) MATH 007A or MATH 009A, MATH 007B or MATH 009B (MATH 009C recommended)
- e) PHYS 002A, PHYS 02LA, PHYS 002B, PHYS 02LB, PHYS 002C, PHYS 02LC
- f) STAT 100A
- g) BCH 100 or BCH 110A (BCH 110A is strongly recommended)

2. *Upper-division requirements (36 units for the B.S., 31 units for the B.A.)*

A GPA of at least 2.0 in upper-division courses taken in the field of the major is a graduation requirement. A student is subject to discontinuation from the major whenever the GPA in upper-division course
work is below 2.0. Students finding themselves in this circumstance must meet with an advisor.

a) BIOL 102
b) BPSC 104/BIOL 104
c) BIOL 132/BPSC 132, BIOL 143/BPSC 143, BPSC 133
d) For the B.S. only: Two (2) units of BPSC 195H, BPSC 197, BPSC 198I, or BPSC 199
e) BPSC 193 with a grade of C- or better
f) For the B.S. At least 11 additional units from one of the five areas of specialization (consult with a faculty advisor). Students may apply a maximum of 6 units of BPSC 190 and/or BPSC 195H and/or BPSC 197 and/or BPSC 198I and/or BPSC 199.

For the B.A. At least 8 additional units from one of the five areas of specialization (consult with a faculty advisor). Note: Students planning a B.A. degree should schedule the required language courses in place of a series of electives.

Areas of Specialization
Individual student career goals may be achieved by selecting an area of specialization within the diverse disciplines of botany and plant sciences. Adjustments within these programs can be made to accommodate students’ interests. Students must consult with a faculty advisor to clarify educational goals and to plan a program of study.

1. Plant Cellular, Molecular, and Developmental Biology

a) BPSC 135
b) Additional units from the following to meet either the B.S. or B.A. requirement: BCH 102, BCH 110B, BCH 110C or BIOL 107A, BCH 113/BIOL 133/BPSC 153, BCH 162, BCH 183/BPSC 183, BIOL 107B, BIOL 113, BIOL

1. Plant Cellular, Molecular, and Developmental Biology

a) No Change
b) Additional units from the following to meet either the B.S. or B.A. requirement: BCH 102, BCH 110B, BCH 110C or BIOL 107A, BCH 162, BCH 183/BPSC 183, BIOL 107B, BIOL 113, BIOL 114, BIOL 121/MCBL 121, BIOL
114, BIOL 121/MCBL 121, BIOL 121L/MCBL 121L, BIOL 123/MCBL 123/PLPA 123, BIOL 155/BPSC 155, BIOL 168, BPSC 138/BIOL 138, BPSC 135, CBNS 101, CBNS 108

2. Plant Genetics, Breeding, and Biotechnology

a) BPSC 150

b) Additional units from the following to meet either the B.S. or B.A. requirement: BCH 153/BPSC 153, BIOL 105, BIOL 107A, BIOL 107B, BIOL 108, BIOL 119, BIOL 148/BPSC 148, BIOL 155/BPSC 155, BPSC 135, BPSC 158, BPSC 185, CBNS 108, STAT 100B

3. Ecology, Evolution, and Systematics

a) BPSC 146

b) Additional units from the following to meet either the B.S. or B.A. requirement: ANTH 170/BPSC 170, BIOL 105, BIOL 108, BIOL 112/BPSC 112/ENTM 112, BIOL 116, BIOL 116L, BIOL 138/BPSC 138, BIOL 165/BPSC 165, BPSC 134/ENSC 134, BPSC 158, BPSC 166, BPSC 185, ENSC 100, GEO 151, GEO 153, GEO 169

4. Plant Pathology, Nematology, and Pest Management

a) BIOL 120/MCBL 120/PLPA 120

b) Additional units from the following to meet either the B.S. or B.A. requirement: BCH 183/BPSC 183, BIOL 121/MCBL 121, BIOL 121L/MCBL 121L, BIOL 124/MCBL 124, BPSC 146, BPSC 150, BPSC 158, BPSC 166, ENSC 134/BPSC 134, ENTM 100/BIOL 100, ENTM 109, ENTM 124, ENTM 127/BIOL 127, ENTM 129, ENTM 129L, ENSC 100, ENSC 120/NEM 120, NEM 159/BIOL 159, PLPA 120L/BIO 120L/MCBL 120L, PLPA 123/BIOL 123/MCBL 123, PLPA 134/BIO 134, PLPA 134L/BIO 134L, ENSC 104


2. Plant Genetics, Breeding, and Biotechnology

a) No Change

b) Additional units from the following to meet either the B.S. or B.A. requirement: BIOL 105, BIOL 107A, BIOL 107B, BIOL 108, BIOL 119, BIOL 148/BPSC 148, BIOL 155/BPSC 155, BPSC 135, CBNS 108, STAT 011, BPSC 109/CBNS 109, BPSC 149

3. Ecology, Evolution, and Systematics

a) No Change

b) Additional units from the following to meet either the B.S. or B.A. requirement: BIOL 105, BIOL 108, BIOL 112/BPSC 112/ENTM 112, BIOL 116, BIOL 116L, BIOL 138/BPSC 138, BIOL 165/BPSC 165, BPSC 134/ENSC 134, BPSC 166, ENSC 100, GEO 151, GEO 153, GEO 169, BPSC 145

4. Plant Pathology, Nematology, and Pest Management

a) No Change

b) Additional units from the following to meet either the B.S. or B.A. requirement: BCH 183/BPSC 183, BIOL 121/MCBL 121, BIOL 121L/MCBL 121L, BIOL 124/MCBL 124, BPSC 146, BPSC 150, BPSC 158, BPSC 166, ENSC 134/BPSC 134, ENTM 100/BIOL 100, ENTM 109, ENTM 124, ENTM 127/BIOL 127, ENTM 129, ENTM 129L, ENSC 100, ENSC 120/NEM 120, NEM 159/BIOL 159, PLPA 120L/BIO 120L/MCBL 120L, PLPA 123/BIOL 123/MCBL 123, PLPA 134/BIO 134, PLPA 134L/BIO 134L, ENSC 104

Justification:

BPSC 153 has not been in the catalog for several years. It is being removed from the electives for the Plant Biology (PLBL) major. This is also cross listed with BCH 153 and BIOL 153. These departments have been notified of this catalog discrepancy.

BPSC 185 (Molecular evolution) has not been taught for several years. It is being removed based on the NOFY call. It is being removed from the electives for the Plant Biology (PLBL) major. The class description is removed.

BPSC 109/CBNS 109 was approved in AY18-19 and we are now adding it to the Plant Biology major’s emphases in Plant Cellular, Molecular, and Developmental Biology and Plant Genetics, Breeding, and Biotechnology. It has also been added to the electives for the Plant Biology Minor. Cross-listing with CBNS 109 was approved.

BPSC 149 (Nanobiotechnology) is a new class. We have added it to the Plant Biology major’s emphases in Plant Cellular, Molecular, and Developmental Biology and Plant Genetics, Breeding, and Biotechnology. It has also been added to the electives for the Plant Biology Major and Minor.

BPSC 170 (Ethnobotany) has not been taught for several years. It is being removed based on the NOFY call. It is being removed from the electives for the Plant Biology (PLBL) major. The class description is removed. BPSC 170 is cross-listed with ANTH 183; the Anthropology department is aware of this catalog deletion.

BPSC 158 (Subtropical and Tropical Horticulture) has not been taught for several years. It is being removed based on the NOFY call. It is being removed from the electives for the Plant Biology (PLBL) major.

MCBL 128 (Field Mycology), a new class taught by Sydney Glassman, is an appropriate elective for the specialization in Plant Pathology, Nematology, and Pest Management.

BPSC 145 (Ecology, Evolution, and Systematics) is a new class that recently got approved by the Committee On Courses. We have added it to the Plant Biology major’s emphases in Ecology, Evolution, and Systematics.

MCBL 121LS is a new course that is the same as BIOL/MCBL 121L except that it has a discussion that will focus on improving scientific writing skills. It is an appropriate elective for the Plant Cellular, Molecular, and Developmental Biology and Plant Pathology, Nematology, and Pest Management specializations.

STAT 100A and STAT 100B have been renumbered to STAT 010 and STAT 011 by the Statistics Department.

CHEM 012A-C series has been discontinued since Fall 2017 so we are removing it from program requirements.

In consultation with CNAS UAAC, we are making changes to the transfer criteria. In order to align with other CNAS majors we are now recommending completion of calculus instead of it being only recommended. This is important primarily because we want to ensure that our transfer students are not only coming in prepared but are also in a better position to proceed with the appropriate sequential science courses.
The number of units required to complete the major is also being changed to consider the change in math requirements and align with the current catalog offerings students can chose from.

**Approvals:**
Approved by the faculty of the Department of Botany and Plant Sciences: January 11, 2021
Approved by the Executive Committee of the College of Natural and Agricultural Sciences: January 19, 2021
Reviewed by the Committee on Undergraduate Admissions: February 26, 2021
Approved by the Committee on Educational Policy: April 22, 2021