



The University of Georgia

University Council
Athens, Georgia 30602

April 10, 2015

UNIVERSITY CURRICULUM COMMITTEE – 2014-2015

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Dear Colleagues:

The attached proposal for the following new areas of emphasis under the major in Plant Biology (B.S.) will be an agenda item for the April 17, 2015, Full University Curriculum Committee meeting:

Area of Emphasis in Plant Ecology and Environment

Area of Emphasis in Plant Biotechnology and Bioinformatics

Sincerely,

William K. Vencill, Chair
University Curriculum Committee

cc: Provost Pamela S. Whitten
Dr. Rahul Shrivastav

PROPOSAL FOR AREAS OF EMPHASIS

School/College: Franklin College of Arts and Sciences

Department/Division: Plant Biology

Major: Plant Biology - B.S.

If major has more than one area of emphasis, submit all areas of emphasis under one major together. A course may appear in more than one area of emphasis, but each area of emphasis should have a distinct focus.

Major Requirements: Attach a list of requirements for the major. Undergraduate programs may attach a copy of the major requirements from the online bulletin. Graduate programs may provide a list of general requirements for the major.

See attached

Area of Emphasis Title (as it will appear in the *Bulletin*): Plant Ecology and Environment

Proposed starting date: Fall 2015

Area of Emphasis Description:

Include prefixes, numbers and titles of required courses, number of credit hours required; residency requirements (if any); and grade requirements (if any). Graduate Areas of Emphasis may refer to groups of courses if necessary.

Required Courses:

- PBIO 3650-3650L, Plant Ecology (4 hours) [Course Change Application to change name, increase to 4 hours and add prerequisite]
- PBIO 4650/6650-4650L/6650L, Plant Taxonomy (4 hours)

Choose one course from the following:

- BIOS 3000, Intermediate Biostatistics for Public Health Sciences (3 hours) or
- GEOG 4370/6370-4370L/6370L, Geographic Information Science (3 hours) or
- HORT 4095/6095, GPS/GIS Applications for Landscape Managers (3 hours) or
- PBIO 3660L, Plant Biology Intensive Laboratory (4 hours)

Choose one course from the following:

- ANTH(BIOL)(ECOL)(EETH)(ENTO)(FANR)(GEOL)(PATH)(PBIO) 4261, Museum Natural History Internship (3 hours) or
- PBIO 4940, Internship in Plant Biology (3-4 hours) [New Course Application]
- PBIO 4960, Independent Research in Plant Biology (4 hours) [Course Change Application to increase hours to 4 hours] or
- PBIO 4960H, Independent Research in Plant Biology (Honors) (4 hours) [Course Change Application to increase hours to 4 hours]

Total Number of Hours in Area of Emphasis Plant Ecology and Environment: 14-16 hours

Area of Emphasis Title (as it will appear in the *Bulletin*): Plant Biotechnology and Bioinformatics

Proposed starting date: Fall 2015

Area of Emphasis Description:

Include prefixes, numbers and titles of required courses, number of credit hours required; residency requirements (if any); and grade requirements (if any). Graduate Areas of Emphasis may refer to groups of courses if necessary.

Required Courses:

BCMB(BIOL)(CHEM) 3100, Introductory Biochemistry and Molecular Biology (4 hours) [Course Change Application to delete (BIOL)(CHEM)]
PBIO(BINF) 4550/6550, Bioinformatics Applications (3 hours)
BTEC(BCMB)(PBIO) 4000L, Methods in Biotechnology (4 hours)

Choose one course from the following:

PBIO 4940, Internship in Plant Biology (3-4 hours) [New Course Application] or
PBIO 4960, Independent Research in Plant Biology (4 hours) [Course Change Application to increase hours to 4 hours] or
PBIO 4960H, Independent Research in Plant Biology (Honors) (4 hours) [Course Change Application to increase hours to 4 hours]

Total Number of Hours in Area of Emphasis Plant Biotechnology and Bioinformatics: 15 hours

TOTAL DEGREE HOURS **120 hours**

I. FOUNDATION COURSES (9 HOURS)

ENGL 1101 or ENGL 1101E or ENGL 1101S
ENGL 1102 or ENGL 1102E or ENGL 1103 or ENGL 1050H or ENGL 1060H
MATH 2250 or MATH 2300H or MATH 2400 or MATH 2400H or MATH 2410 or MATH 2410H

II. SCIENCES (7-8 HOURS)

At least one of the physical science or life science courses must include a laboratory.

Physical Sciences (3-4 hours)

Preferred Course(s): (CHEM 1211, CHEM 1211L) or (CHEM 1311H, CHEM 1311L)

Life Sciences (3-4 hours)

Preferred Course(s): (BIOL 1107, BIOL 1107L) or (BIOL 2107H, BIOL 2107L) or (PBIO(BIOL) 1210 and PBIO(BIOL) 1210L) or (PBIO(BIOL) 1210, PBIO(BIOL) 1210H and PBIO(BIOL) 1210L)

III. QUANTITATIVE REASONING (3-4 HOURS)

Preferred Course(s): STAT 2000 or STAT 2100H or BIOS 2010-2010L

IV. WORLD LANGUAGES AND CULTURE, HUMANITIES AND THE ARTS (12 HOURS)

World Languages and Culture (9 hours)

No preferred courses for this area. See Core Curriculum view.

Humanities and the Arts (3 hours)

No preferred courses for this area. See Core Curriculum view.

V. SOCIAL SCIENCES (9 HOURS)

- Students who have not met the Georgia and U.S. Constitution requirement by examination should enroll in [POLS 1101](#).
- A passing grade on an examination on the history of the United States and Georgia is required to satisfy the United States and Georgia History Requirement for all persons receiving a baccalaureate degree from the University, unless exempted by one of the following courses: [HIST 2111](#), [HIST 2112](#). Examinations are given at University Testing Services. Reexamination is permitted. Contact University Testing Services at (706) 542-3183 for information.

No preferred courses for this area. See Core Curriculum view.

Area VI

Complete the [BIOL](#) or [PBIO](#) sequence started in Area II by choosing either:

([BIOL 1108](#), [BIOL 1108L](#)) or ([BIOL 2108H](#), [BIOL 2108L](#)) or ([PBIO\(BIOL\) 1220](#), [PBIO\(BIOL\) 1220L](#)) or ([PBIO\(BIOL\) 1220H](#), [PBIO\(BIOL\) 1220](#), and [PBIO\(BIOL\) 1220L](#))

([CHEM 1212](#), [CHEM 1212L](#)) or ([CHEM 1312H](#), [CHEM 1312L](#))
([CHEM 2211](#), [CHEM 2211L](#)) or ([CHEM 2311H](#), [CHEM 2311L](#))

Choose one of the following:

([CHEM 2212](#), [CHEM 2212L](#)) or ([CHEM 2312H](#), [CHEM 2312L](#)) or [MATH 2260](#) or [PHYS 1111-1111L](#)

If any of the courses in Area VI have been used to satisfy Areas II-V of the Core Curriculum, General Electives may be taken here. (Refer to College-wide requirements when selecting General Electives)

Note: Plant Biology requires individual review of non-equivalent transfer courses before they can be used to satisfy Area VI and Major Requirements.

Entrance Requirements

To complete the degree within four years, the student must complete [MATH 2250](#) or [MATH 2300H](#) or [MATH 2400](#) or [MATH 2400H](#) or [MATH 2410](#) or [MATH 2410H](#) and [STAT 2000](#) or [STAT 2100H](#) or [BIOS 2010-2010L](#) and [CHEM 1211](#), [CHEM 1211L](#), (or [CHEM 1311H](#), [CHEM 1311L](#)) and [CHEM 1212](#), [CHEM 1212L](#) (or [CHEM 1312H](#), [CHEM 1312L](#)) as part of the core curriculum in Areas I, II, III, and VI.

MAJOR REQUIREMENTS

A baccalaureate degree program must require at least 21 semester hours of upper division courses in the major field and at least 39 semester hours of upper division work overall.
Students in the Franklin College must earn a grade of "C" (2.0) or better in major required courses.

~~Required Courses (31-35 hours)~~

~~Genomics and Plant Genetics (choose one from:)~~

~~[BCMB 3600](#)~~

~~[BTEC\(BCMB\)\(PBIO\) 4000L](#)~~

~~[PBGG\(CRSS\)\(HORT\) 4140/6140](#)~~

~~[PBIO\(CRSS\)\(BIOL\) 4500/6500](#)~~

~~[PBIO\(GENE\)\(PATH\) 4510/6510](#)~~

~~[PBIO\(BIOL\)\(BINF\) 4550/6550](#)~~

Cell and Development (choose one from:)

~~CBIO(BIOL) 3300~~

~~CBIO(BIOL) 3400~~

~~PBIO(BIOL) 3600~~

Plant Structure/Function (choose one from:)

~~HORT(CRSS) 4430/6430~~

~~PBIO 4270/6270~~

Diversity (choose one from:)

~~CBIO(PBIO) 4600/6600~~

~~PATH(PBIO) 4200/6200-4200L/6200L~~

~~PBIO 4650/6650-4650L/6650L~~

Ecology (choose one from:)

~~ECOL(BIOL) 3500-3500L~~

~~FANR 4350/6350~~

Independent Research

~~PBIO 4960~~

Biology Core Courses — 12 hours

~~BCMB(BIOL)(CHEM) 3100~~

~~GENE 3000~~

~~GENE 3200 or (GENE 3200 and GENE(BIOL) 3200H)~~

Required Courses (11 hours)

GENE 3000

GENE 3200

HORT(CRSS) 4430/6430

Select an Area of Emphasis

Area of Emphasis: Plant Ecology and Environment (14-16 hours)

~~PBIO 3650-3650L~~ [Course Change Application to change name, increase to 4 hours, and add prerequisite]

~~PBIO 4650/6650-4650L/6650L~~ (4 hours)

Choose one course from the following:

~~BIOS 3000~~ (3 hours)

~~GEOG 4370/6370-4370L/6370L~~ (3 hours)

~~HORT 4095/6095~~ (3 hours)

~~PBIO 3660L~~ (4 hours) [Course Change Application to delete (BIOL)]

Choose one course from the following:

~~ANTH(BIOL)(ECOL)(EETH)(ENTO)(FANR)(GEOL)(PATH)(PBIO) 4261~~ (3 hours)

~~PBIO 4940~~ - Internship in Plant Biology (3-4 hours) [New Course Application]

~~PBIO 4960~~ (4 hours) [Course Change Application to increase hours to 4 hours]

~~PBIO 4960H~~ (4 hours) [Course Change Application to increase hours to 4 hours]

Area of Emphasis: Plant Biotechnology and Bioinformatics (15 hours)

~~BCMB(BIOL)(CHEM) 3100~~ (4 hours) [Course Change Application to delete (BIOL)(CHEM)]

~~PBIO(BINF) 4550/6550~~ (3 hours)

~~BTEC(BCMB)(PBIO) 4000L~~ (4 hours)

Choose one course from the following:

~~PBIO 4940~~ - Internship in Plant Biology (3-4 hours) [New Course Application]

PBIO 4960 (4 hours) [Course Change Application to increase hours to 4 hours] or
PBIO 4960H (4 hours) [Course Change Application to increase hours to 4 hours]

Major Electives (9-12 hours)

In consultation with the department adviser, choose three of the following courses not used elsewhere in the major:

ANTH(BIOL)(ECOL)(EETH)(ENTO)(FANR)(GEOL)(PATH)(PBIO) 4261 (3 hours)

ANTH(PBIO) 4300/6300-4300L/6300L (4 hours) [Course Change Application to increase hours to 4 hours]

BCMB(BIOL)(CHEM) 3100 (4 hours) [Course Change Application to delete (BIOL)(CHEM)]

BCMB 3600 (3 hours)

BIOS 3000 (3 hours)

BTEC(BCMB)(PBIO) 4000L (4 hours)

CBIO(BIOL) 3400 (4 hours)

CBIO(PBIO) 4600/6600 (3 hours)

CRSS(FANR) 3060 (3 hours) and CRSS(FANR) 3060L (1 hour)

CRSS 4450/6450 (3 hours)

CRSS(HORT)(ECOL) 4590/6590 (3 hours) and CRSS(HORT) 4560L/6590L (1 hour)

CRSS 4600/6600 (3 hours) and CRSS 4600L/6600L (1 hour)

CRSS(MIBO) 4610/6610-4610L/6610L (4 hours)

ECOL(BIOL) 3500-3500L (4 hours)

ECOL 4000/6000 (3 hours)

ECOL 4500/6500 (4 hours)

FANR 4350/6350 (3 hours)

GEOG(PBIO) 4220/6220 (3 hours)

GEOG(PBIO) 4240/6240 (3 hours)

GEOG 4370/6370-4370L/6370L (3 hours)

HORT(ANTH)(PBIO) 3440 (3 hours)

HORT 4095/6095 (3 hours)

HORT(CRSS) 4440/6440-4440L/6440L (4 hours)

PATH(ANTH)(PBIO) 3010 (3 hours)

PATH 3530-3530L (3 hours)

PATH(PBIO) 4200/6200-4200L/6200L (4 hours)

PBGG(CRSS)(HORT) 4140/6140 (3 hours)

PBIO 3270 (3 hours) [Course Change Application to change course number]

PBIO 3400 (3 hours)

PBIO(BIOL) 3600 (4 hours) [Course Change Application to delete (BIOL)]

PBIO 3650-3650L (4 hours) [Course Change Application to change name, increase to 4 hours, and add prerequisite]

PBIO 3660L (4 hours)

PBIO(CRSS)(BIOL) 4500/6500 (3 hours) [Course Change Application to delete (BIOL)]

PBIO(GENE)(PATH) 4510/6510 (3 hours)

PBIO(BINF) 4550/6550

PBIO 4650/6650-4650L/6650L (4 hours)

PBIO 4940 (3-4 hours) [New Course Application]

PBIO 4960 (4 hours) (May be taken a second time as a Major Elective) [Course Change Application to increase to 4 hours]

PBIO 4960H (4 hours) [Course Change Application to increase hours to 4 hours]

PBIO 4970H (4 hours) [Course Change Application to increase hours to 4 hours]

WASR(FORS) 4110/6110-4110L/6110L (4 hours)

WASR 4400-4400L (3 hours)

General Electives (~~25-29 hours~~ 21-28 hours)

(Refer to College-wide requirements when selecting general electives.)

Upper Division (~~4-8 hours~~ 0-5 hours)

Any level (~~17-25 hours~~ 21-23 hours)

(This total does not include the 1-hour P.E. requirement)
