



# UNIVERSITY OF WASHINGTON

OFFICE OF THE PRESIDENT

May 24, 2006

*Mark A. Emmert, President*

Dean David C. Hodge  
College of Arts and Sciences  
Box 353765

Dear David:

Based on the recommendation of its Subcommittee on Admissions and Programs, the Faculty Council on Academic Standards has recommended approval of the revised requirements for the Bachelor of Science and Bachelor of Arts degrees in Biology. A copy of the change is attached.

I am writing to inform you that the Department of Biology is authorized to specify these requirements beginning autumn quarter 2006.

The new requirements should be incorporated in printed statements and in individual department websites as soon as possible. The *General Catalog* website will be updated accordingly by the Registrar's Office.

Sincerely yours,

Mark A. Emmert  
President

Enclosure

cc: Mary Pat Wenderoth (with enclosure)  
Mr. Robert Corbett (with enclosure)  
Dr. Deborah H. Wiegand (with enclosure)  
Todd Mildon, J.D. (with enclosure BIOL-20060310)



**Creating & Changing Undergraduate Academic Programs\***  
After college/school review, send signed original and 8 copies to: University Registrar, 355850

College: College of Arts and Sciences Department or Unit: Biology Date: 3/10/06

**New Programs**

- Leading to a Bachelor of \_\_\_\_\_ in \_\_\_\_\_ degree
- Leading to a Bachelor of \_\_\_\_\_ degree with a major in \_\_\_\_\_
- Leading to a \_\_\_\_\_ Option within the existing major in \_\_\_\_\_
- Leading to a Minor in \_\_\_\_\_

**Changes to existing programs**

- New Admission Requirements for the Major in \_\_\_\_\_ within the Bachelor of \_\_\_\_\_
- Revised Admission Requirements for the Major in \_\_\_\_\_ within the Bachelor of \_\_\_\_\_

Revised Program Requirements for the Major in Biology within the Bachelor of Science and Arts (BS & BA) \_\_\_\_\_

- Revised Requirements for the Option within the major in y\_
- Revised Requirements for the Minor in \_\_\_\_\_

**Other Changes**

- Change name of program from \_\_\_\_\_ to \_\_\_\_\_
- New or Revised Continuation Policy for \_\_\_\_\_
- Eliminate program in \_\_\_\_\_

Proposed Effective Date: (quarter/year) Autumn 2006

Contact Person	Phone Number	Email
Mary Pat Wenderoth Box 351800	206-685-8022	mpw@u.washington.edu

**Explanation of and Rationale for Proposed Change:** (Please use additional pages if necessary. or new programs, please include any relevant supporting documentation such as student learning atcomes, projected enrollments, letters of support, and departmental handouts.)

In 2003, as a result of the merger of the Department of Zoology, the Department of Botany and the Biology Program into the Department of Biology, there was a major restructuring of the undergraduate curriculum. As a result of this restructuring, there is one Biology major with 7 different OPTIONS.

- B.A. General Biology
- B.S. General Biology
- B.S. Ecology & Evolutionary Biology
- B.S. Environmental & Conservation Biology
- B.S. Molecular, Cellular & Developmental Biology
- B.S. Physiology
- B.S. Plant Biology

To provide for courses that both bridge from the 200 to the 400 level and to provide breadth to our students a group of 4 foundation courses was created and biology majors were required to take 3 of the 4 courses. These foundation courses focus on development of discipline specific analytical reasoning skills. Class format is 2 hours of lecture and 1 hour of discussion which is used to practice the analytical skills.

## Creating & Changing Undergraduate Academic Programs\*

After college/school review, send signed original and 8 copies to: University Registrar, 355850

Biol 350, Foundations of Physiology  
Biol 354, Foundations of Evolution  
Biol 355, Foundations of Molecular, Cellular & Developmental Biology  
Biol 356 Foundations of Ecology

These courses are prerequisites for most but not all 400 level courses within their discipline, for example, Biol 355, Foundations of Molecular, Cellular & Developmental Biology, is a prerequisite for Biology 401, Advanced Cell Biology.

Given, that Biology is the second largest major on campus (currently at 1,061 majors), there is a very high demand for these courses (need 180 seats/class per quarter). Three of the 4 courses are offered every quarter and the 4<sup>th</sup> is offered every quarter but one. The maximum number of students that we can provide seats is 90-150 students / class/ quarte. The department does not have the resources (faculty or the teaching assistants) to adequately meet this high demand for seats.

As a result of this mismatch between resources (available seats) and student demand, we find that the foundation courses in biology are predominately populated with seniors (which negates the bridging aspect of course) and access to the foundation courses is delaying the time to graduation for our students.

To address the issues of access and time to graduation, we propose the following set of curriculum changes:

1. To fulfill the bridging aspect of the foundation courses, students would only have to take the foundation courses that are prerequisite for the upper division courses that they plan to take. For example a student with an option in Molecular, Cellular & Developmental Biology would take Biol 355 (Foundations of Molecular, Cellular & Developmental Biology) as it is a prereq for most of the 400 level courses in cell and molecular biology.

This change would greatly decrease the number of students who must take a given foundation course. For example, the demand for Biol 350 would drop from 180 to 90/qtr, for Biol 355 from 180 to 120/qtr. This type of capacity is sustainable with the current resources in Biology.

(note not all 400 level courses require the corresponding 300 level foundation course)

2. To fulfill the breadth requirement students will be required to take an upper division (300 or 400 biological science) course that is outside the courses listed in their Biology Option. For example, a student with an option in physiology would fulfill the breadth requirement by taking any upper division course in ecology, evolution, or molecular, cellular & developmental biology.

The Genome Sciences 371 course requirement will **not** be changed.

### **Credit redistribution:**

Currently, students must take 3 of 4 foundation courses and each foundation course is 3 credits. This results in a total of 9 credit hours of foundation courses.

The new plan would still effectively require one foundation course in their option area (3 cr) and one course from outside their option area (3-5Cr possible). This will result in a total of 6-8 crs. Therefore, students would only have to make up, at the most 3 cr, and at the least 1 credit. These credits will be added to the 400 level course load.

\* For information about when and how to use this form please go to <http://www.washington.edu/faculty/facsenate/councils/fcas/1503/>.

## Creating & Changing Undergraduate Academic Programs

### 2. Catalog Copy

A. Catalog Copy as Currently Written *(Include only sections/paragraphs that would be changed if your request is approved. Please cross out or otherwise highlight any deletions.)*

- ~~e. Third year biological sciences foundation courses including GENOME 371 (required of all options), and a choice of three of the following: BIOL 350 or BIOL 354 or BIOL 355 or BIOL 356~~
- ~~f. The remaining 22-25 credits are selected from a variety of 300- and 400-level courses specific to each option, and which are designed to insure both breadth and depth of coverage.~~

B. Proposed Catalog Copy, Reflecting Requested Changes *(Include exact wording as you wish it to be shown in the printed catalog. Please underline or otherwise highlight any additions. If needed, attach a separate, expanded version of the changes that might appear in department publications.)*

- e. GENOME 371 (5 credits)
- f. Natural History/Biodiversity (3 credits): One course selected from approved list.
- g. Option Requirement (34 credits): 300- and 400-level courses selected from lists specific to each option. See department web site for additional information.

## Creating & Changing Undergraduate Academic Programs

### 2b. Catalog Copy for the BA in Biology

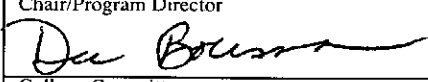

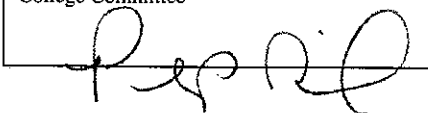
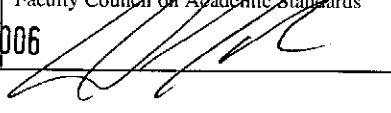
A. Catalog Copy as Currently Written (*Include only sections/paragraphs that would be changed if your request is approved. Please cross out or otherwise highlight any deletions.*)

1. Introductory biology, three to six quarters of chemistry, and mathematics are the same as required by the B.S., listed below. *Likewise, biology 300-level foundation-course requirements are the same.* However, physics is not required and the remaining 33 upper division elective credits may be chosen from any biology course or any courses on the electives lists from the six options for the BS degree.

B. Proposed Catalog Copy, Reflecting Requested Changes (*Include exact wording as you wish it to be shown in the printed catalog. Please underline or otherwise highlight any additions. If needed, attach a separate, expanded version of the changes that might appear in department publications.*)

1. Introductory biology, at least three to six quarters of chemistry, and mathematics are the same as required by the B.S., listed below.. However, physics is not required. The remaining 36 upper division elective credits may be chosen from any biology course or any courses on the electives lists from the six options for the BS degree.

**Signatures (required)**

Chair/Program Director 	Date 3/10/06	Dean 	Date MAY 09 2006
	Date MAY 09 2006	Faculty Council on Academic Standards 	Date 5-19-06

Supplemental information on course size and offerings is attached per" request for new proposals"listed on the web page.

## **1503 supplement for changes to Biology major requirements.**

3/10/06

### **New Guidelines for Proposals**

For any changes to a program that could possibly affect enrollment, the Faculty Council on Academic Standards asks that departments submit a separate statement about the changes along with form 1503. The statement should include current and capacity enrollment figures.

### **Listed below are the current offerings of the foundation courses:**

- Biol 350 – Foundations in Physiology – offered A,W,S,SUM  
90-150 seats/ quarter  
30+ students/quarter on wait list
- Biol 354 - Foundations in Evolution – offered 3 times W, S, SUM  
90-150 seats/ quarter  
20 students/quarter on wait list
- Biol 355- Foundations in Cell, Molecular and Developmental Biology – offered A,W,S,SUM  
90-150 seats/ quarter  
30+ students/quarter on wait list
- Biol 356- Foundations in Ecology – offered A,W,S,Sum  
90-150 seats/ quarter  
20 students/quarter on wait list

### **Expected demand under new requirements**

- Biol 350 Foundations in Physiology – offered A,W,S,SUM  
90 seats/quarter should meet demand
- Biol 354 - Foundations in Evolution – offered 3 times W, S, SUM  
60 seats/quarter should meet demand
- Biol 355- Foundations in Cell, Molecular and Developmental Biology – offered A,W,S,SUM  
120 seats/quarter should meet demand  
(most of our majors select this option so this course will have heaviest enrollment)
- Biol 356- Foundations in Ecology – offered A,W,S,Sum  
60 –90 seats/quarter should meet demand