

4-11-1988

# Revision of Undergraduate Biological Science Major

The College at Brockport, College Senate

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Resolution #22 1987-88

President  
Faculty Senate  
Campus

TO: President John E. Van de Wetering

FROM: The Faculty Senate

Meeting on April 11, 1988  
(Date)

RE: X I. Formal Resolution (Act of Determination)  
       II. Recommendation (Urging the fitness of)  
       III. Other (Notice, Request, Report, etc.)

SUBJECT: Revision of Undergraduate Biological Sciences Major



Signed Richard H. [Signature] Date Sent 4/12/88  
(For the Senate)

TO: The Faculty Senate

FROM: President John E. Van de Wetering

RE: I. Decision and Action Taken on Formal Resolution  
a. Accepted. Effective Date Jan 88  
b. Deferred for discussion with the Faculty Senate on \_\_\_\_\_  
c. Unacceptable for the reasons contained in the attached explanation.  
II., III. a. Received and acknowledged  
b. Comment:

DISTRIBUTION: Vice Presidents: Just once page to attached list

Others:

Distribution Date: 4/20/88

Signed: [Signature]  
(President of the College)

Date Received by the Senate: \_\_\_\_\_

# **BR**OCKPORT

State University of New York  
College at Brockport  
Brockport, New York 14420

Department of Biological Sciences  
(716) 395-2193

April 7, 1988

TO: Faculty Senate

FROM: Dr. Larry K. Kline, Chairman *L. Kline*  
Department of Biological Sciences

RE: Revision of Undergraduate Biological Sciences Major

The Curriculum Committee of the Department of Biological Sciences, in consultation and with the approval of the entire Department recommends the revision of the Biological Sciences major. We are, therefore, submitting the attached documents for Faculty Senate approval.

The enclosed documents are as follows:

1. Description of Changes and Rationale for Changes Made in Major
2. Catalogue Copy of revised major to replace the current pages 79-80 of the 1987-1989 Undergraduate Studies catalogue.

We would urge consideration and approval of these changes so that the Department may have these officially in place for the Fall 1988 Semester.

LKK/1  
Enclosure

1. Department of Biological Sciences - Description of Changes in Major and Rationale for Changes

A. OPTION 1 MAJOR

1. Current requirements - 30 credit hours in Biology  
 Proposed requirements - 38 credit hours in Biology  
 Rationale: Additional course work will provide and ensure increased breadth as well as depth of exposure in the Biological Sciences area.
  
2. Current requirements - 8 hours of 200 level course work  
     BIO 201 - Botany (4 credits) and  
     BIO 202 - Zoology (4 credits)  
 Proposed requirements - same as above - no change
  
3. Current requirements - 12 hours at 300 level  
     BIO 301 - Cell Biology (4 credits)  
     BIO 302 - Genetics (4 credits)  
     BIO 303 - Ecology (4 credits)  
     All 3 courses are required - no choices by student allowed.  
 Proposed requirements - 12 to 16 hours at 300 level. BIO 302 - Genetics (4 credits) and BIO 303 - Ecology (4 credits) are required. Student must select the remaining 4 to 8 credit hours from among the following courses:  
     BIO 301 - Cell Biology (4 credits)  
     BIO 305 - Comparative Physiology (4 credits)  
     BIO 321 - Anatomy & Physiology I (4 credits)  
     BIO 322 - Anatomy & Physiology II (4 credits)  
     BIO 323 - Microbiology (4 credits)  
 Rationale: Students have greater flexibility in course selection at the intermediate level to broaden their knowledge base and to prepare for the specialized 400 level courses.

4. Current requirements - 10 hours at 400 level by advisement

Proposed requirements - 14-18 hours at 400 level. Students must take BIO 411 - Evolution (3 credits) and BIO 498 - Seminar (1 credit). Remaining 10 to 14 hours by advisement.

Rationale: The Evolution course is viewed as a culminating experience for the students to integrate their biological knowledge from a number of different perspectives. A seminar course ensures that all students can prepare and present material from the biological literature with a reasonable degree of scientific sophistication. The remaining 10-14 hours at the 400 level will enable the student to concentrate in-depth in the more specialized areas of their choice.

5. The Chemistry requirements of the Biological Sciences Option I Major remain unchanged. CHM 205, CHM 206 and CHM 305 are required.

6. Summary - Option I

Current requirements include the following:

200 level courses	8 credits
300 level courses	12 credits
400 level courses	<u>10</u> credits
TOTAL HOURS	30 credits

Proposed requirements include the following

200 level courses	8 credits
300 level courses	12 credits minimum
400 level courses	<u>14</u> credits minimum
TOTAL HOURS	34 credits
needed	4 credits

The remaining 4 credits may be taken at either the 300 or 400 level for a total of 38 credits.

B. OPTION II MAJOR

1. Current requirements - 30 credit hours in Biology  
Proposed requirements - 38 credit hours in Biology  
Rationale: Additional course work will provide and ensure increased breadth as well as depth of exposure in the Biological Sciences area.
  
2. Current requirements - 8 hours of 200 level course work  
BIO 201 - Botany (4 credits) and  
BIO 202 - Zoology (4 credits)  
Proposed requirements - same as above - no change
  
3. Current requirements - 12 hours at 300 level by advisement  
- Proposed requirements - 12-16 hours at 300 level by advisement  
Rationale: Additional course provides breadth of exposure
  
4. Current requirements - 10 hours at 400 level by advisement  
proposed requirements - 14-18 hours at 400 level. Students must take BIO 498 - Seminar (1 credit)  
Rationale: A seminar course is required to ensure all students can prepare and present written and oral material from the biological literature with a reasonable degree of scientific sophistication. The remaining 13-17 hours at the 400 level will enable the student to concentrate in-depth in the more specialized areas of their choice.
  
5. The Chemistry required for Option II major has been changed from CHM 261 to CHM 261 and CHM 262. The additional requirement of CHM 262 will fulfill a gap in the Chemistry background of Option II students.
  
6. Summary - Option II  
Current requirements include the following:  
200 level courses 8 credits  
300 level courses 12 credits  
400 level courses 10 credits  
TOTAL HOURS 30 credits

Proposed requirements include the following:

200 level courses 8 credits  
300 level courses 12 credits  
400 level courses 14 credits  
TOTAL HOURS 34 credits

The remaining 4 credits may be taken at either the 300 or 400 level for a total of 38 credits.

DEPARTMENT OF BIOLOGICAL SCIENCES  
(716) 395-2193

Chairperson: Larry Kline; Professors: Barr, Dilcher, Hitzeman, Makarewicz, Mosher, Smith, Southwick, Starr, Thompson; Associate Professors: Brannigan, Chan, Fox, Haynes, Kline; Research Associate: Buttner

The Department of Biological Sciences offers both majors and minors two options and a variety of concentrations in the major. Both major and minor are designed for students with an interest in one or several of the many aspects of the life sciences. Programs of study may be for career training or for general knowledge of the discipline.

Major in Biological Sciences (Option I)

Option I is suitable for graduate training, for admission to medical, dental and other professional health schools and for careers in professional health, industry, education, various types of laboratories and in other fields.

Biology Requirements:

BIO 201	Biology I - Botany	4 hours
BIO 202	Biology II - Zoology	4 hours
BIO 302	Genetics	4 hours
BIO 303	Ecology	4 hours
BIO 300 level courses	(by Advisement)	4-8 hours

The additional 300 level requirements must be selected from the following courses: BIO 301 (Cell Biology), BIO 305 (Comparative Physiology), BIO 321 (Anatomy and Physiology I), BIO 322 (Anatomy and Physiology II) and BIO 323 (Microbiology)

BIO 411	Evolution	3 hours
BIO 498	Seminar	1 hour
BIO 400 level courses	(by Advisement)	10-14 hours

Chemistry Requirements

CHM 205-206	College Chemistry I and II	8 hours
CHM 305	Organic Chemistry I	4 hours

Recommended:

CHM 306	Organic Chemistry II	4 hours
MTH 201-202	Calculus I & II	6 hours
PHS 201-202	College Physics I & II	8 hours

In normal progress toward the degree in Option I, BIO 201, 202, CHM 205, 206, and the recommended mathematics would be taken in the freshman year. BIO 302, 303, CHM 305, the recommended CHM 306, and recommended mathematics would be taken in the sophomore year. The recommended PHS 201, 202 would be taken in the junior year and 400-level biology courses in the junior and senior years.



#### Major in Biological Sciences (Option II)

Option II is for students interested in biological sciences and whose career or personal goals require program flexibility. Because Option II does not demand as much chemistry as Option I, students in Option II usually need to complete additional courses should they decide to seek admission to graduate school in biology or to professional schools (e.g., medicine, dentistry, optometry, etc.). Students are not enrolled in the Option II major until they have registered with the Department and filed a plan of courses with the departmental Option II advisor.

Since Option I and Option II are designed to meet different needs, switching from one to the other presents difficulties. A student should thus choose an option carefully. Check with the Department for details.

#### Biology Requirements:

BIO 201	Biology I - Botany	4 hours
BIO 202	Biology II - Zoology	4 hours
BIO 309	level (by Advisement)	12-16 hours
BIO 498	Seminar	1 hour
BIO 400	level (by Advisement)	13-17 hours

#### Chemistry Requirements:

CHM 261-262	General Chemistry I & II	8 hours
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#### Recommended:

A course in statistics (e.g., PSH 202 Introductory Statistics for Psychology)

In normal progress toward the degree in Option II, BIO 201, 202, CHM 261 and CHM 262 are taken in the freshman year. 300-level biology courses and recommended Statistics are taken in the sophomore year. 400-level biology courses are taken in the junior and senior years.

#### Option I and II

A minimum of 38 hours in Biological Sciences is required for the major. These hours must include at least 12 hours at the 300 level and at least 14 hours at the 400 level. All students, including transfer students must complete a minimum of 18 hours of upper division courses in the Biological Sciences Department at Brockport regardless of the number of hours transferred.

Only 3 credit hours of BIO 499, Independent Study, may be included in the 38 credit hours required for the major.

All biological sciences students are aided by a departmental academic advisor in planning particular options and concentrations. There are a variety of choices of study and career preparation.