

4-1-1991

Revisions to Secondary Biology

The College at Brockport, College Senate

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Resolution # 27 1990-91

TO: President John E. Van de Wetering

FROM: The Faculty Senate Meeting on April 1, 1991
(Date)

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

SUBJECT: Revisions to the Secondary Biology 7-12 BA, BS
Programs Proposed by the Department of Education
and Human Development and the Department of
Biological Sciences

Signed Thomas S. Keller
(For the Senate)

SUNY COLLEGE AT BROOKPORT
RECEIVED
APR 08 1991
FACULTY SENATE
BROOKPORT, NY

TO: The Faculty Senate

FROM: President John E. Van de Wetering

RE: I. Decision and Action Taken on Formal Resolution
a. Accepted. Effective Date July 11
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: Lower page to attached list

Distribution Date 4/2/91 Signed: [Signature]
(President of the College)

PROPOSED REVISIONS SECONDARY BIOLOGY 7-12

BA, BS

HEGIS CODE: 0401.01

PROGRAM CODE:

03316 BA

03322 BS

DEPT. OF EDUCATION AND HUMAN DEVELOPMENT 9/1/90

PROGRAM REVISIONS - SECONDARY SCIENCE 7-12

A. Changes in Arts & Sciences requirements:

1. All students will complete a major and a minor in the sciences. (No change except that the minor was not previously specifically required for Earth Science).

All students will be required to complete one additional year in two other science disciplines (16 hours). Brockport students will be certified to teach general science in addition to the primary area of certification.

2. All students will be required to complete NAS 486 Laboratory Science Safety.*

Rationale: Teachers of any sciences must be cognizant of state and national safety regulations and must also be competent in ensuring a safe environment for their students in the science classrooms and labs.

*Exception: Chemistry majors who are required to take the appropriate chemistry safety course.

3. One year's study of a language other than English.

B. Changes in Professional Education requirements:

1. Inclusion of a foundations course designed to provide early experience in schools and historical social and philosophical foundations (EDI 320 Self, Schools and Society). This course replaces SOC 412 Schools, Learning and Society and/or EDI 412 Self, Schools and Society. 3 credit hours.
2. Development of a new laboratory methods course in each of the science disciplines.

C. Changes in Course Content (Professional Area)

Other changes will be made in course content to ensure that students are prepared to teach students from minority cultures, gifted-talented students, students with handicapping conditions and students from homes where a language other than English is spoken.

D. Comparison of Old and New Professional Sequence

<u>OLD</u>	<u>NEW</u>
PSH 484 Adolescence 3 hrs.	EDI 320 Self, School & Society 3 hrs
HLS 370 Drug Educ. for Teachers 1 hr.	HLS 370 Drug Educ. for Teachers 1 hr.
EDI 43X Methods of Teaching XXX 3 hrs.	PSH 484 Adolescence 3 hrs
EDI 440 Practicum 12 hrs.	EDI 447 Methods of Teaching 3 hrs
EDI 441 Problems 3 hrs.	Secondary Science
SOC 412/EDI 412 School & Society 3 hrs.	*CHM 480 Practical Chemistry Lab. 3 hrs
	Pedagogy
	EDI 475 Practicum 12 hrs
	EDI 476 Seminar 3 hrs

*Example from Chemistry

		<u>Currently Registered</u>
PROGRAM CODE	HEGIS	DEGREE
03316	0401.01	BA
03322	0401.01	BS

EDUCATION PROGRAM REQUIREMENTS

Institution SUNY, College at Brockport
 Program Title Biology "7-12" Degree BA/BS

Required Courses in Academic Discipline

<u>Number</u>	<u>Name</u>	<u>Credits</u>	
BIO 201	Biology I Botany	4	
BIO 202	Biology II Zoology	4	
BIO 302	Genetics	4	
BIO 303	Ecology	4	
BIO 300-level	elective courses (by	4-8	
	advisement)		
BIO 411	Evolution	3	
BIO 498	Seminar	1	
BIO 400-level	elective courses (by	10-14	
	advisement)		
CHM 205-206	College Chemistry I & II	8	Required Co-requisites
CHM 305	Organic Chemistry I	4	Required Co-requisites

Additional elective credits in the discipline, if required 20

Total number of credits in academic discipline 34-42

Plus 12 in chemistry

Required Courses in Pedagogy*

<u>Number</u>	<u>Name</u>	<u>Credits</u>
EDI 320	Self, Schools & Society	3
PSH 484	Adolescence	3
HLS 370	Drug Education for Teachers	1
EDI 434	Methods of Teaching Secondary	3
	Science	
EDI 440	Student Teaching Practicum	12
EDI 441	Problems of Secondary Education	3

Additional elective credits in pedagogy, if required _____

Total number of credits in pedagogy 25

SECONDARY BIOLOGY
TEACHER CERTIFICATION

This program is designed to prepare students to teach biology in New York State schools in grades 7-12. In addition to certification in biology, students will also meet the New York State requirements for certification in a minor and in general science.

Program Requirements Credit Hours

I. General Education Requirements	Variable
Students must meet the general education requirements in place at the time of acceptance	
II. Pre Professional Preparation:	
Major in Biological Sciences (Option I)	
Biology requirements	
BIO 201 Biology I - Botany	4
BIO 202 Biology II - Zoology	4
BIO 302 Genetics	4
BIO 303 Ecology	4
BIO 300 - level elective courses (by advisement)	4-8
Four credits in the 300-level elective courses must be selected from the following: 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
BIO 498 Seminar	1
BIO 400-level courses (by advisement)	<u>10-14</u>
TOTAL:	38
Chemistry requirements:	
CHM 205-206 College Chemistry I & II	8
CHM 305 Organic Chemistry I	4
Recommended:	
CHM 306 Organic Chemistry II	4
MTH 201-202 Calculus I & II	6
PHS 201-202 College Physics I & II	8

NOTE: 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.

The above requirements refer to the biology major. In addition, the following requirements noted on the next page must be met for teacher certification.

PAGE 2
 SECONDARY BIOLOGY TEACHER CERTIFICATION

- III. Additional Science/Math Requirements: *25-37 hours
- Minor in a second science (chemistry recommended) 18
 - Two semesters of Physics w/lab 8
 - Two semesters of Earth Science w/lab 8
 - NAS 486 Laboratory Science Safety 3
 - Minimum of three hours of math selected from the following courses: MTH 201 & 202 (required if pursuing a Physics minor or if electing to take PHS 201 & 202), or applied statistical courses selected from ESC 350, HLS 488 or BIO 4XX.
- *students choosing chemistry need only complete 6 additional hours with advisement
- IV. Pre-Professional Preparation: Foreign Language 0-6 hours
 The equivalent of one year of college level study in a language other than English is required for teacher certification in New York State.
- V. Professional Preparation: Education Courses 13 hours
- EDI 320 Self, Schools and Society 3 hours
 - HLS 370 Drug Education for Teachers 1 hour
 - PSH 484 Adolescence 3 hours
 - EDI 447 Methods of Teaching Sec. Science 3 hours
 - BIO XXX Biology Laboratory Methods and Materials 3 hours
- VI. Professional Preparation: Student Teaching and Senior Seminar: 15 hours
- EDI 475 Practicum in Sec. Education 12 hours
 - EDI 476 Seminar in Secondary Education 3 hours

NEW COURSE DESCRIPTIONS
SECONDARY BIOLOGY

EDI 320 Self, Schools and Society 3 credit hours

A beginning course in secondary education designed to introduce students to the role of teaching and learning in contemporary American society. Includes historical, sociological, philosophical and psychological foundations of education.

BIO XXX Biology Laboratory Methods and Materials 3 credit hours
Prerequisite or Corequisite: PSH 484, EDI 320, EDI 447

A school-based course in which students work with a classroom teacher in preparing lab and demonstration materials, assist students in the lab and evaluate the effectiveness of the materials. A minimum of three hours per week is required.

ADMISSIONS CRITERIA

and Other Program Information

Secondary Biology Certification 7-12

1. Grade Point Average (G.P.A.) - The minimum overall GPA requirement is 2.5. However, depending on the number and quality of applicants at any point in time, the actual requirement may be higher. Some qualified candidates may not be accepted in periods of high demand.
2. Credit Hour Requirements. Applications will be considered after the student has completed 24 hours of college level coursework.
3. Students must maintain an overall 2.5 G.P.A. and a 2.5 G.P.A. in the major field in order to continue in the program.
4. Effective 9/1/90 the NTE Core Battery Tests of Communication Skills and General Knowledge have replaced the Basic Skills Tests as a component of the admissions/continued eligibility requirements of all certification programs.
5. Students may be accepted to a program without NTE scores, but will not be admitted to a methods course after April 1, 1991 without successfully passing the Communication Skills and General Knowledge parts of the Core Battery.
6. Students who have completed the Brockport Basic Skills Tests are exempt from the NTE requirement for admission/continued eligibility. However, all students must successfully complete the NTE in order to receive state certification.
7. Closing dates for receipt of applications for provisional certification programs are as follows:

March 1 for enrollment beginning in the fall or later.

October 1 for enrollment beginning in the spring or later.

Applications may be reviewed after the following closing dates if seats are available:

January 2 for enrollment beginning in the spring or later.

June 1 for enrollment beginning in the fall or later.

For consideration, all materials must be in by the closing date. Notification will be made approximately 3 weeks after the review date.

SUMMARY OF REQUIREMENTS OF PROPOSED REVISIONS TO TEACHING CERTIFICATION PROGRAMS IN THE SCIENCES

Approved Fall, 1991

	Biological Sciences	Chemistry	Earth Sciences	Physics
General Education				
APS	1	1	1	1
Com Skills	3	3	3	3
Statistics	3	3	3	3
Breadth Components				
F, P	6	6	6	6
H, H (C, W, T also)	6	6	6	6
S, S (C, W, T also)	6	6	6	6
N, L (included below)	0	0	0	0
Issues	3	3	3	3
Subtotal for General Education	28	28	28	28
Major				
Courses in major dept	38	33 &	30	31
Required supporting courses				
Math	0	9	0	12
Chem	12	0	0	0
Phys	0	8	0	0
Subtotal for major	50	50	30	43
Other sciences				
Biology	(8)*	8	8	8
Chemistry	(8)	(8)	8	8
Earth Sciences	8	8	(8)	8
Physics	8	(8)	8	(8)
Calculus	3-6	(9)	3	(12)
or applied statistics	at least 3			
Minor in second science	6-10 #	10	10	10
Laboratory Science Safety	3	3 &	3	3
Subtotal other sciences	28-35	28	40	37
Professional preparation for teaching				
Self, Schools and Society	3)	same for all four programs		
Drug Education for teachers	1)			
Adolescence	3)			
Methods of Teaching Sec Science	3)			
Methods for specific science	3 &&)			
Practicum	12)			
Seminar in Secondary Education	3)			
Subtotal for teaching prep	28			
TOTAL CREDITS	134-141#	131	126	136

* credits in parentheses () are included in the requirements for the major

minor assumed to be chemistry; if minor is earth sciences or physics add 4 credits. Assumes minimum math of 3 credits; if calculus II is included (required for physics minor), add 3 credits.

& All science area certifications require Laboratory Science Safety. The Chemistry major requires Chemical Safety (1 credit). Students seeking certification in chemistry will substitute Laboratory Science Safety, effectively reducing the credits required for the chemistry major from 33 to 32.

&& Practical Chemistry Laboratory Pedagogy serves both as chemistry major elective and as methods course.

For all four programs, additional credits are required if the students are not ready for calculus as their first math course in college, and also if their high school preparation does not include Foreign language to meet the requirement. Additional credits may also be required, depending on choices made for general education requirements.