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    David L. Keller
           (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
        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:    (Name and title)

Distribution Date    Signed:    (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
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

<table>
<thead>
<tr>
<th>OLD</th>
<th>NEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSH 484 Adolescence</td>
<td>EDI 320 Self, School &amp; Society</td>
</tr>
<tr>
<td>HLS 370 Drug Educ. for Teachers</td>
<td>HLS 370 Drug Educ. for Teachers</td>
</tr>
<tr>
<td>EDI 41X Methods of Teaching XXX</td>
<td>PSH 484 Adolescence</td>
</tr>
<tr>
<td>EDI 440 Practicum</td>
<td>EDI 447 Methods of Teaching Secondary Science</td>
</tr>
<tr>
<td>EDI 441 Problems</td>
<td>*CHM 480 Practical Chemistry Lab. 3 hrs</td>
</tr>
<tr>
<td>SOC 412/EDI 412 School &amp; Society</td>
<td>EDI 475 Practicum 12 hrs</td>
</tr>
<tr>
<td></td>
<td>EDI 476 Seminar 3 hrs</td>
</tr>
</tbody>
</table>

*Example from Chemistry
**program code**

03316
03322

** HegIS**

0401.01 0401.01

** Degree**

BA BS

**Education Program Requirements**

**Institution** SUNY, College at Brockport

**Program Title** Biology "7-12"  **Degree** BA/BS

**Required Courses in Academic Discipline**

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

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**

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

Additional elective credits in pedagogy, if required ___

Total number of credits in pedagogy ___25___
Effective: 9/1/90
SUNY, Brockport

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

I. General Education Requirements
   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
   BIO 202 Biology II - Zoology
   BIO 302 Genetics
   BIO 303 Ecology
   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
   BIO 498 Seminar
   BIO 400-level courses (by advisement) 10-14
   TOTAL: 38

   Chemistry requirements:
   CHM 205-206 College Chemistry I & II
   CHM 305 Organic Chemistry I

   Recommended:
   CHM 306 Organic Chemistry II
   MTH 201-202 Calculus I & II
   PHS 201-202 College Physics I & II

   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 485 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 PHY 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

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.
<table>
<thead>
<tr>
<th></th>
<th>Biological Sciences</th>
<th>Chemistry</th>
<th>Earth Sciences</th>
<th>Physics</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Breadth Components</td>
<td></td>
<td>5</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Subtotal for General Education</td>
<td></td>
<td>28</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>Courses in major dept</td>
<td>38</td>
<td></td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>Required supporting courses</td>
<td>0</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Math</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Chem</td>
<td></td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Phys</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Subtotal for major</td>
<td></td>
<td>50</td>
<td>50</td>
<td>43</td>
</tr>
<tr>
<td>Other sciences</td>
<td></td>
<td></td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Biology</td>
<td>(8)*</td>
<td></td>
<td>(8)</td>
<td>(8)</td>
</tr>
<tr>
<td>Chemistry</td>
<td>(8)</td>
<td></td>
<td>(8)</td>
<td>(8)</td>
</tr>
<tr>
<td>Earth Sciences</td>
<td>8</td>
<td></td>
<td>(8)</td>
<td>(8)</td>
</tr>
<tr>
<td>Physics</td>
<td>8</td>
<td></td>
<td>(8)</td>
<td>(8)</td>
</tr>
<tr>
<td>Calculus or applied statistics</td>
<td>at least 3</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Minor in second science</td>
<td>5-10*</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Laboratory Science Safety</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Subtotal other sciences</td>
<td></td>
<td>28</td>
<td>40</td>
<td>37</td>
</tr>
<tr>
<td>Professional preparation for teaching</td>
<td></td>
<td>TOTAL CREDITS</td>
<td>134-141*</td>
<td>131</td>
</tr>
</tbody>
</table>

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

** Minor is assumed to be chemistry; if minor is earth sciences or physics add 4 credits. Assumes minimum math of 3 credits if calculus is included (required for physics minor), and 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 by 3 to 32.

*2* 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 a foreign language to meet the requirement. Additional credits may also be required, depending on choices made for general education requirements.