TO: Dr. John R. Halstead, College President
FROM: The College Senate: 05/04/2014

RE: I. Formal Resolution (Act of Determination)

II. Recommendation (Urging the Fitness of)

III. Other, For Your Information (Notice, Request, Report, etc.)

SUBJ: Creation of a B.S Biology Adolescence Teacher Cert. (42-13-110C)

Signed: Dawn Jones Date: 5/1/14
(Dawn Jones, 2013-14 College Senate President)

Please fill out the bottom portion and follow the distribution instructions at the end of this page.

TO: Dawn Jones, College Senate President
FROM: John R. Halstead, College President

RE: I. Decision and Action Taken on Formal Resolution (circle choice)

a. Accepted - Implementation Effective Date**: Fall 2014

**Implementation of resolution requires final approval from SUNY- State Education Department. ✔YES ☐NO

b. Deferred for discussion with the Faculty Senate on ___/___/____
c. Unacceptable for the reasons contained in the attached explanation

II, III. Response to Recommendation or Other/FYI

a. Received and acknowledged ____/____/____

b. Comment:

Signed: John R. Halstead Date: 5/22/14
(Dr. John R. Halstead, President, The College at Brockport)

DISTRIBUTION: Upon approval, the College President will forward copies of resolutions to his staff who will, in turn, forward copies to their staff. The College Senate Office will post resolutions to the College Senate Web at http://www.brockport.edu/collegesenate/resolutions.
INSTRUCTIONS

- Use committee guidelines available at brockport.edu/collegesenate/proposal.html.
- Prepare ONE complete document in Word format: include this proposal cover page, proposal, attachments and support letters from your department chair and dean if applicable.
- Locate the Resolution # and date this proposal will replace at our “Approved Resolutions” page on our Web site.
- Email completed proposal to senate@brockport.edu. (General Education Proposals and questions go to diamphro@brockport.edu in the Vice Provost’s Office first.)
- Make revisions on the paperwork emailed to you from the Senate office that shows the assigned routing number on top. Submit updated document to senate@brockport.edu.
- Questions? Call the Senate office at 395-2586 or the appropriate committee chairperson.

1. PROPOSAL TITLE: Please be somewhat descriptive, i.e. Use a course number and/or title, indicate if for GED code, etc.
   Creation of a B.S. Biology Adolescence Inclusive Generalist Teacher Certification Track

2. BRIEF DESCRIPTION OF PROPOSAL:
   Proposed program decreases the required credits of biology from 106-107 to 96 for students majoring in biology who want to pursue adolescence inclusive generalist teacher certification.

3. WILL ADDITIONAL RESOURCES AFFECTING BUDGET BE NEEDED? _X_ NO ___ YES 
   EXPLAIN YES

4. DESCRIBE ANY DATA RELATED TO STUDENT LEARNING OUTCOMES ASSESSMENT USED AS PART OF THE RATIONALE FOR THE REQUESTED SENATE ACTION.
   N/A

5. HOW WILL THIS AFFECT TRANSFER STUDENTS: 
   Transfer Students’ time to completion may be shortened, as the proposed track reduces major requirements by 10-11 credit hours. SUNY faculty are currently developing a proposal to revise the Biology Transfer Path., which may facilitate seamless transfer.

6. ANTICIPATED EFFECTIVE DATE: 
   Fall 2014

7. SUBMISSION & REVISION DATES: PLEASE DATE ALL REVISED DOCUMENTS TO AVOID CONFUSION.
   First Submission | Updated on | Updated on | Updated on
   03/03/14 | 03/25/14

8. SUBMITTED BY: (contact person)
   Name | Department | Phone | Email
   Rey Sia | Biology | X2783 | rsia@brockport.edu

9. COMMITTEES: (Senate office use only)
   Standing Committee | Forwarded To | Dates Forwarded
   _OE_ Executive Committee | Standing Committee | 03/03/14, 03/25/14
   _OE_ Enrollment Planning & Policies | Executive Committee | 4/14/14
   _OE_ Faculty & Professional Staff Policies | Senate | 4/21/14, 5/4/14
   _O_ General Education & Curriculum Policies | Passed GED’s go to Vice Provost
   _O_ Graduate Curriculum & Policies | College President | 5/22/14
   _O_ Student Policies | OTHER
   _X_ Undergraduate Curriculum & Policies | REJECTED -WITHDRAWN

NOTES: RES #36
1. **Rationale for the Creation of a Teacher Certification within the Biology Major**

The current program requires a student pursuing a B.S. in Biology with adolescence inclusive teacher certification to complete the requirements for the biology major as well as the teacher certification program, which totals between 131 and 137 credits (104-105 major credits plus general education coursework). This proposal creates a teacher certification track within the biology major and reduces the number total number of credits to 122 (94 major credits plus general education coursework). The creation of a teacher certification track within the biology major eliminates 10-11 credits in biology and reduces a student’s time to degree by one semester.

The reduction of 10-11 credits in biology eliminates Organic Chemistry II/Analytical Chemistry, and the 300/400 level BIO elective requirements including Senior Seminar BIO498, the substitution of Pre-Calculus for Calculus, and the addition of Anatomy and Physiology I and II. The practicum in student teaching (EDI 475) will serve as an appropriate capstone course for student pursuing teacher certification. The changes are based on consultation with former Brockport biology education students and faculty in the departments of Biology and Education and Human Development here at Brockport.

Four-year plans for the existing and proposed programs are included in this proposal.

The proposed teacher certification track in biology is a collaborative effort by the Departments of Biology and Education and Human Development and is designed to attract students interested in becoming biology teachers to the College and complete the requirements in four years. Upon completing the proposed program, a student will be eligible to earn certifications in biology, grades 5-12, a general science extension, grades 7-12, and students with disabilities generalist, grades 7-12. In addition, the Robert Noyce Science Scholarship and the NYS Math and Science Incentive Scholarship presents the College with a unique marketing opportunity to promote this degree, and recruit high school seniors interested in becoming biology teachers to the College.

2 & 3. **Entry into and Continuation in the Track**

Due to a new mandate by the SUNY Board of Regents, students seeking teacher certification in 2015 and beyond will be required to have a 3.0 GPA to enter a teacher certification program. Students must maintain a 3.0 overall GPA to continue in this major track. If a student falls below a 3.0, they will be placed on probationary status for one semester. If after that the student still does not achieve the minimum GPA requirement, the student will be advised into the regular Biology track (non-education).

Transfer students will need to meet the 3.0 GPA requirement to declare this track.

A student interested in completing the biology teacher certification track will be advised by faculty in the Department of Biology, who will work closely with undergraduate advisors in the Department of Education and Human Development.

If a student decides not to complete the courses in the adolescence inclusive teacher certification program, he/she will have the option to complete the remaining courses in the B.S. Biology major. These courses are:

- MTH 201 Calculus or MTH 243 Statistics (3-4 credits)
- CHM 306 Organic Chemistry I or CHM 313 Analytical Chemistry (4 credits)
- Two BIO 400-level laboratory courses (2 at 3-4 credits each = 6-8 credits)
- BIO 498 Senior Seminar (1 credit)

4. **Description of any New Courses**
There are no new courses in the proposed teacher certification track. All courses are already being offered to students.

**Side-by-Side Comparison of Existing B.S. Biology with Adolescence Inclusive Generalist Education and the Proposed B.S. Biology Teacher Certification Track**

<table>
<thead>
<tr>
<th>Existing Program</th>
<th>Credits</th>
<th>Action</th>
<th>Proposed Program</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BIO component</strong></td>
<td>37</td>
<td>Reduced by 6 credits</td>
<td><strong>BIO component</strong></td>
<td>31</td>
</tr>
<tr>
<td>BIO 201 General Biology I</td>
<td>4</td>
<td></td>
<td>BIO 201 General Biology I</td>
<td>4</td>
</tr>
<tr>
<td>BIO 202 General Biology II</td>
<td>4</td>
<td></td>
<td>BIO 202 General Biology II</td>
<td>4</td>
</tr>
<tr>
<td>BIO 301 Cell Biology</td>
<td>4</td>
<td></td>
<td>BIO 301 Cell Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIO 302 Genetics</td>
<td>4</td>
<td></td>
<td>BIO 302 Genetics</td>
<td>4</td>
</tr>
<tr>
<td>BIO 498 Seminar</td>
<td>1</td>
<td>Remove</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>BIO 303 Ecology (elective)</td>
<td>4</td>
<td></td>
<td>BIO 303 Ecology (required)</td>
<td>4</td>
</tr>
<tr>
<td>BIO 411 Evolution (elective)</td>
<td>3</td>
<td></td>
<td>BIO 411 Evolution (required)</td>
<td>3</td>
</tr>
<tr>
<td>BIO 300/400 level electives</td>
<td>13</td>
<td>Remove</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Add requirement</td>
<td>BIO 321 Anatomy &amp; Physiology I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Add requirement</td>
<td>BIO 322 Anatomy &amp; Physiology II</td>
<td>4</td>
</tr>
</tbody>
</table>

| **EDI component** | 36 | **EDI component** | 36 |
| EDI 413 Intro Special Education | 3 | EDI 413 Intro Special Education | 3 |
| EDI 414 Methods Special Ed | 3 | EDI 414 Methods Special Ed | 3 |
| EDI 419 Assessment in SPED | 3 | EDI 419 Assessment in SPED | 3 |
| EDI 431 Language Skills I | 3 | EDI 431 Language Skills I | 3 |
| EDI 432 Language Skills II | 3 | EDI 432 Language Skills II | 3 |
| EDI 447 Inclusive Middle | 3 | EDI 447 Inclusive Middle | 3 |
| EDI 467 Teaching Inclusive | 3 | EDI 467 Teaching Inclusive | 3 |
| EDI 475 Practicum with Seminar | 12 | EDI 475 Practicum with Seminar | 12 |

| **Co-Requisite component** | 31-32 | Reduced by 4-5 credits | **Co-Requisite component** | 27 |
| CHM 205 General Chemistry I | 4 | | CHM 205 General Chemistry I | 4 |
| CHM 206 General Chemistry II | 4 | | CHM 206 General Chemistry II | 4 |
| CHM 305 Organic Chemistry I | 4 | | CHM 305 Organic Chemistry I | 4 |
| CHM 306 Organic Chemistry II or CHM313 | 4 | Remove | N/A | 0 |
| MTH 201 Calculus I OR MTH 243 Statistics | 3-4 | Remove | N/A | 0 |
| | | Add requirement | **MTH 122 Precalculus** | 3 |
| PHS 205 Introductory Physics I | 4 | | PHS 205 Introductory Physics I | 4 |
| PHS 210 Introductory Physics II | 4 | | PHS 210 Introductory Physics II | 4 |
| PRO 370 Health & Drug Ed | 1 | | PRO 370 Health & Drug Ed | 1 |
| PSH 484 Adolescence | 3 | | PSH 484 Adolescence | 3 |

| **Total Major Requirements** | 104-105 | Reduced by 10-11 Credits | **Total Major Requirements** | 94 |
## CURRENT PROGRAM
### ADOLESCENCE INCLUSIVE GENERALIST 7-12 with Middle Childhood Extension 5-6

**Biology Advisement Guide**

This guide is for Biology majors pursuing the Adolescence Inclusive Generalist Education Program. It is based on students entering with completion or equivalent of a foreign language at the 111 level and readiness to enter calculus. The general science extension requires a minimum 18 credits in at least two science areas other than Biology and is completed in the required co-requisite Chemistry and Physics courses. *Recommendations for both Generalist cognates and general education requirements noted below. Consult with your academic advisor on how to best complete major requirements.*

### FALL SEMESTER CREDITS SPRING SEMESTER CREDITS

#### YEAR 1

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 201 Biology I</td>
<td>4</td>
</tr>
<tr>
<td>CHM 205 College Chem. I</td>
<td>4</td>
</tr>
<tr>
<td>*MTH 201</td>
<td>4</td>
</tr>
<tr>
<td>*ENL 112 Freshman Comp.</td>
<td>3</td>
</tr>
<tr>
<td>GEP 100 Acad. Plan Seminar</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total credits 15/16**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 202 Biology II</td>
<td>4</td>
</tr>
<tr>
<td>CHM 206 College Chem. II</td>
<td>4</td>
</tr>
<tr>
<td>*Social Science (Gen Ed S)</td>
<td>3</td>
</tr>
<tr>
<td>*Fine Arts (Gen Ed P)</td>
<td>3</td>
</tr>
<tr>
<td>*Humanities- ENG (Gen Ed H)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total credits 17/18**

#### YEAR 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 203 Genetics</td>
<td>4</td>
</tr>
<tr>
<td>CHM 205 Organic Chem I</td>
<td>4</td>
</tr>
<tr>
<td>BIO Elective</td>
<td>3-4</td>
</tr>
<tr>
<td>*Humanities (Gen Ed H)</td>
<td>3</td>
</tr>
<tr>
<td>PSH 484 Adolescence</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total credits 17/18**

#### YEAR 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO Elective</td>
<td>3-4</td>
</tr>
<tr>
<td>EDI 431 Language Skills I</td>
<td>3</td>
</tr>
<tr>
<td>**EDI 447 Inclus Middle (fall)</td>
<td>3</td>
</tr>
<tr>
<td>BIO Elective</td>
<td>3-4</td>
</tr>
<tr>
<td>PHS 205 Intro to Physics I</td>
<td>4</td>
</tr>
</tbody>
</table>

**Total credits 16/18**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 411 Evolution</td>
<td>3</td>
</tr>
<tr>
<td>EDI 432 Language Skills II</td>
<td>3</td>
</tr>
<tr>
<td><strong>EDI 467 Teaching Inclus. (spring)</strong></td>
<td>3</td>
</tr>
<tr>
<td>BIO Elective</td>
<td>3-4</td>
</tr>
<tr>
<td>PHS 206 Intro to Physics II</td>
<td>4</td>
</tr>
<tr>
<td>PRO 370 Health &amp; Drug Ed</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total credits 17/18**

#### YEAR 4

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 498 Seminar in Biology</td>
<td>3-4</td>
</tr>
<tr>
<td>**EDI 414 Methods Special Ed</td>
<td>3</td>
</tr>
<tr>
<td>EDI 419 Assessment in SPED</td>
<td>3</td>
</tr>
<tr>
<td>Fine Arts (Gen. Ed. F)</td>
<td>3</td>
</tr>
<tr>
<td>EDI 430 Ed &amp; Society (I, W, Y)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total credits 131-137**

*Recommendations for satisfying Students with Disabilities Generalist cognates and general education requirements:

- **English** – 2 courses (6 credits) ENG 112 or above. Some ENG courses satisfy (H), ENG 210 (P)
- **Mathematics** – 2 courses (6 credits) MTH 112 or above.
- **Science** – 2 courses (7-8 credits) covered in major
- **Social Studies** - 2 courses (6 credits) one American History required HST 110 (D, S), 211 (D, H), or 212 (D, S), and one from ANT 101 (D, S, W), ECN 100 (S), HST 130 (S), PLS 111(S), SOC 100 (S) or ESC 102.

**Course requires 50 hour field placement.**

Updated 10/13

*Above courses are subject to change. General Education courses approximate requirements*
## PROPOSED PROGRAM

### B.S. Biology Degree Track in Adolescence Inclusive Generalist Education 7-12 with Middle Childhood Extension (5-6)

This Biology major track is designed for students pursuing the Adolescence Inclusive Generalist Education Program. It is based on students entering with the completion or equivalent of a foreign language at the 111 level and readiness to enter MTH 122 pre-calculus. Recommendations for Generalist cognates and general education requirements noted below. The General Science Extension requires 18 credits of science in at least 2 science areas other than Biology and is satisfied by the required 12 Chemistry credits and 8 Physics credits. Consult with your academic advisor on how to best complete major requirements.

### FALL SEMESTER | CREDITS | SPRING SEMESTER | CREDITS
--- | --- | --- | ---
**YEAR 1**  
BIO 201 Biology I | 4 | BIO 202 Biology II | 4  
CHM 205 College Chemistry I | 4 | CHM 206 College Chemistry II | 4  
*MTH 122 Pre-Calculus | 3 | Foreign Language 112 level | 3  
*ENL 112 College Composition | 3 | *Fine Arts (Gen Ed P) | 3  
GEP 100 Acad. Plan Seminar | 1 | *Humanities (Gen Ed H) | 3  
 | 15 |  | 17  
**YEAR 2**  
BIO 302 Genetics | 4 | BIO 301 Cell Biology | 4  
CHM 305 Organic Chemistry I | 4 | PSH 484 Adolescence | 3  
*Humanities (Gen Ed H) | 3 | BIO 303 Ecology | 4  
PRO 370 Health & Drug Ed | 1 | EDI 413 Intro Special Ed. | 3  
*Social Science (Gen Ed S) | 3 | *Social Science (Gen Ed S) | 3  
 | 15 |  | 17  
**YEAR 3**  
PHS 205 Intro Physics I | 4 | PHS 210 Intro Physics II | 4  
EDI 431 Language Skills I | 3 | EDI 432 Language Skills II | 3  
**EDI 447 Inclusive Middle (fall) | 3 | **EDI 467 Teaching Inclusively (spring) | 3  
BIO 321 Anatomy and Physiology I | 4 | EDI 430 Ed & Society (I, W, Y) | 3  
 | 14 |  | 17  
**YEAR 4**  
BIO 411 Evolution | 3 | EDI 475 Practicum with Seminar | 12  
**EDI 414 Methods Special Ed | 3 |  | 12  
EDI 419 Assessment in SPED | 3 |  |  
*Fine Arts (Gen. Ed. F) | 3 |  |  
Elective | 3 |  |  
 | 15 |  |  

*Recommendations for satisfying Students with Disabilities Generalist cognates and general education requirements:*

- **English** – 2 courses (6 credits) ENG 112 or above. Some ENG courses satisfy (H), ENG 210 (P)
- **Mathematics**– 2 courses (6 credits) MTH 112 or above.
- **Science** – 2 courses (7-8 credits) covered in major
- **Social Studies** -2 courses (6 credits) one American History *required* HST 110 (D, S), 211 (D, H), or 212 (D, S), and one from ANI 101 (D, S, W), ECN 100 (S), HST 130 (S), PLS 111(S), SOC 100 (S) or ESC 102.

**Course requires 50 hour field placement.**

*Above courses are subject to change. General Education courses approximate requirements*
5. Staffing Issues
Implementation of the program will require no changes to existing staff. There are currently two students in the existing BIO-Ed Program. We do not anticipate in the near future that enrollments will increase such that new sections of courses are necessary. However, should the teacher certification track become exceedingly popular, we may need to request additional faculty lines and/or adjunct teaching staff for laboratory instruction.

6. Academic Administration Commentary
Letters of support are attached from Chair of Biology, Rey Sia, Ph.D. and Dean of School of Science and Mathematics, Jose Maliekal, Ph.D.

7. Resources
No new resources will be required to implement this program.

8. Letters of Support from Cooperating Departments
School of Education and Human Services
Education and Human Development
Chemistry and Biochemistry
Mathematics
Physics
To the Committee,

I am writing a letter of support regarding the attached College Senate Resolution Proposal to create a new Biology Major Track in Adolescence Inclusive Generalist Education Program with Optional General Science Extension. The current curriculum model for a student pursuing Teacher Certification in Biology has the student completing the requirement for a BIO major as well as the requirement for the Teacher Certification, essentially a double major. The new proposal combines the degree into a single major. The current structure requires the student to complete between 106-107 credits plus general education requirements while the new proposed model requires only 96 credits, a 10-11 credit reduction. This proposal was developed to attract students interested in becoming teachers back to Brockport. Many other college programs have developed more streamlined programs compared to Brockport’s current teacher certification structure. Brockport was once known as a very good regional K-12 teacher-training center. However, it has lost many prospective students to other programs because of the credit requirements which usually take more than 4 years to complete. Thank you for your consideration.

Sincerely,

Rey Antonio L. Sia
27 February 2014

Dr. Rey Sia
Chair, Department of Biology

Dear Rey,

Besides wholeheartedly supporting, I am writing to express my gratitude to you for working with the Department of Education and Human Development and developing a proposal to offer a new track of the Biology major for the benefit of students interested in pursuing the Adolescence Inclusive Generalist Education Program with Optional General Science Extension.

Not just the Biology majors, but Chemistry, Earth Science, and Physics majors struggle, often in vain, to complete the Adolescence Inclusive Generalist Education Program with Optional General Science Extension in four years, as they have to complete coursework in support of the major, required for teacher certification, and student teaching. At long last, working with the Department of Education and Human Development, you have found a solution to a thorny problem. If or when approved by the College Senate, SUNY, and the State Education Department (SED), the total credits required for the completion of the proposed program would be 122, just 2 credits above the required minimum and 4 credits shy of the recommended maximum by SUNY.

Sincerely,

Jose Maliekal, Dean
February 26, 2014

Dear Colleagues,

It is my absolute pleasure to write in support of the creation of a teacher certification track within the biology major. The strategic reduction of 10-11 credits in biology coursework and the 4-5 co-requisites coursework will enable our teacher candidates to complete a B.S. in Biology with adolescence inclusive generalist teacher certification within four years without compromising the candidates’ success and effectiveness as biology teachers.

The proposed teacher certification track in biology holds significant potential for recruiting and retaining future biology teachers. I encourage you to support the proposal.

Sincerely,

Don Halquist

Don Halquist, PhD
Chair and Associate Professor
February 26, 2014

To Whom It May Concern:

I am writing this letter in support of the proposed new program in Biology. The Department has my support for these changes which include the following:

- Decreasing the total credits with the Teacher Certification program to a total of 122
- Increasing the ability of Teacher Certification students to complete the degree in a timely fashion

This proposed program requires no additional resources. In addition, it helps the Department of Biology and the Department of Education and Human Development in providing a rigorous program that will attract and support students while fulfilling accreditation standards.

Sincerely,

Thomas J. Hernandez, EdD, LMHC
Interim Dean
School of Education & Human Services
Dr. Rey Sia, Chair  
Department of Biology  

Rey,  

I have looked over your proposed Biology Track for Teacher Certification and have concluded that the mathematics components look adequate for the program. The required mathematics courses should meet the requirements of the biology, physics and chemistry courses in the program.  

We should have no problem handling your students in our mathematics courses.  

Best of luck with your new track.  

Sandy  

Dr. Sanford Miller  
SUNY Distinguished Professor of Mathematics  
Interim Chair, Department of Mathematics
Dear Rey,

I have reviewed the proposal for a new Biology Major Track for students pursuing the Adolescence Inclusive Generalist Program. In particular I note that this new track will require a full year of introductory Physics, presumably at the level of the Physics 205/210 Introduction to Physics I/II sequence. Since our capacity in those courses depends on the number of lab sections we run, we would be able to accommodate the modest increase in students you have estimated.

The Department of Physics is in support of this proposal.

Cordially,

Stanley F. Radford
Professor and Chairman
Department of Physics
The College at Brockport
Brockport, NY 14420
585-395-5576
The Department of Chemistry and Biochemistry supports the proposal from Biology for a new Biology major track for students pursuing Teacher Certification. The predicted increased enrollments in CHM 205, 206 will not require any additional resources.

Dr. Stephen A. Godleski
Chair Department of Chemistry and Biochemistry