



The College at
BROCKPORT
STATE UNIVERSITY OF NEW YORK

350 New Campus Drive
Brockport, New York 14420
585-395-2586 * 585-395-2006 (fax)
senate@brockport.edu
brockport.edu/collegesenate

Resolution **2017-18 #09**
College Senate

Supersedes Res #: _____



TO: Dr. Heidi Macpherson, College President

FROM: The College Senate:

- RE: **→** I. Formal Resolution (*Act of Determination*)
II. Recommendation (*Urging the Fitness of*)
III. Other, For Your Information (*Notice, Request, Report, etc.*)

SUBJ: **Revising the requirements of the Medical Technology major with the Clinical Year at RGH to secure Licensure Qualifying status from the State Education Department (SED)**
(#07_17-18committee)

Implementation Effective Date**: 1/1/18

Signed:  Date: 12/4/17
(Sandeep Singh, 2017-18 College Senate President)

Signed:  Date: 12/5/17
(Dr. Eileen Daniel, Vice Provost, The College at Brockport)

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

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

TO: Dr. Sandeep Singh, College Senate President

FROM: Dr. Heidi Macpherson, College President

- RE: **→** I. Decision and Action Taken on Formal Resolution (circle choice)
a. Accepted.
b. Deferred for discussion with the Faculty Senate on ___/___/___
c. Unacceptable for the reasons contained in the attached explanation.
d. Comments:

Signed:  Date: 12/6/17
(Dr. Heidi Macpherson, President, The College at Brockport)

DISTRIBUTION:

The College Senate will forward the resolution signed by the College Senate President to the Vice Provost for determination as to whether the implementation of the resolution requires final approval from SUNY-State Education Dept. The Vice Provost will then forward the resolution with that designation to the College President. Upon approval, the College President will forward copies of resolutions to his/her staff who will, in turn, forward copies to their staff and to the College Senate. The College Senate Office will post resolutions to the College Senate Web at <http://www.brockport.edu/collegesenate/resolutions>.

**COLLEGE SENATE OFFICE
RESOLUTION PROPOSAL COVER
PAGE**

Routing Number <i>Routing # assigned by Senate Office</i>	#07_17-18UC <i>Use routing number and title in all reference to this proposal.</i>
Replaces Resolution	#

DEADLINE FOR SUBMISSIONS: FEBRUARY 28

Incomplete proposals or proposals received after the deadline may not be reviewed until next semester.

1. **PROPOSAL TITLE:** Please be somewhat descriptive, ie. *Graduate Probation/Dismissal Proposal* rather than *Graduate Proposal*.

Revising the requirements of the Medical Technology major with the Clinical Year at RGH to secure Licensure Qualifying status from the State Education Department (SED)

2. **BRIEF DESCRIPTION OF PROPOSAL:**

To secure Licensure Qualifying status, we are proposing to revise the requirements of the Medical Technology major with Clinical Year at Rochester General Hospital. These revisions are informed by discussions with SED.

- Require all students to complete Quantitative Analytical Chemistry CHM313.
- Require new core content courses Biological Chemistry and lab (BIO310 & BIO311) and BIO315 Cell Biology
- Eliminate BIO301 Cellular Biochemistry as a required course.
- Enact a minimum GPA of at least 2.75 in all science prerequisite courses as criterion for progression to the Clinical Year.
- Require Immunology Laboratory (BIO430)

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

4. **HOW WILL THIS AFFECT TRANSFER STUDENTS:**

There is no transfer path for Medical Technology

5. **ANTICIPATED EFFECTIVE DATE:**

Fall 2018

6. **SUBMISSION & REVISION DATES:** PLEASE PUT A DATE ON ALL UPDATED DOCUMENTS TO AVOID CONFUSION.

<i>First Submission</i>	<i>Updated on</i>	<i>Updated on</i>	<i>Updated</i>

7. **SUBMITTED BY: (contact person)**

<i>Name</i>	<i>Departmen</i>	<i>Phone</i>	<i>Email</i>
Craig Lending	Biology	X5755	clending@brockport.edu

8. **COMMITTEES TO COPY: (Senate office use only)**

Standing Committee	Forwarded For Approval To	Dates
<input type="checkbox"/> Enrollment Planning & Policies	Committee for approval	10/11/2017

- Faculty & Professional Staff Policies
- General Education & Curriculum Policies
- Graduate Curriculum & Policies
- Student Policies
- Undergraduate Curriculum & Policies

** follow special Gen Ed procedures for submission of General Education proposals at "How to Submit Proposals" on our Website.*

Executive Committee	11/06/2017
GED to Vice Provost	
Senate	11/13/2017, 11/27/2017
College President	
OTHER	
REJECTED -WITHDRAWN	

NOTES:

2) Provide a side-by-side comparison of all the courses in the existing and proposed revised program that clearly indicates all new or significantly revised courses, and other changes.

Existing Major in Medical Technology (60-61 credits; 52-53 credits at the 300 and 400 level)	Proposed Major in Medical Technology (60-61 credits; 52-53 credits at the 300 and 400 level)
BIO 201 Biology I 4 Cr BIO 202 Biology II 4 Cr BIO 301 Cellular Biochemistry 4 Cr BIO 302 Genetics 4 Cr	BIO 201 Biology I 4 Cr BIO 202 Biology II 4 Cr BIO 310 Biological Chemistry 3 Cr BIO 302 Genetics 4 Cr BIO 315 Cell Biology 3 Cr BIO 311 Biological Chemistry Lab 1 Cr
BIO 321 Anatomy and Physiology I 4 Cr BIO 322 Anatomy and Physiology II 4 Cr	BIO 321 Anatomy and Physiology I 4 Cr BIO 322 Anatomy and Physiology II 4 Cr
BIO 323 Microbiology 4 Cr OR BIO 423 General Microbiology 3 Cr	BIO 323 Microbiology 4 Cr OR BIO 423 General Microbiology 3 Cr
BIO414 Immunology 3 Cr	BIO 414 Immunology 3 Cr BIO 430 Immunology Lab 1 Cr
BIO 481 Medical Technology Internship 15 Cr BIO 482 Medical Technology Internship 15 Cr	BIO 481.62 Medical Technology Internship 15 Cr BIO 482.62 Medical Technology Internship 15 Cr
Minimum Major Total: 60-61 Cr	Minimum Major Total: 64-65 Cr
Chemistry requirements: CHM 205 College Chemistry I 4 Cr CHM 206 College Chemistry II 4 Cr CHM 305 Organic Chemistry I 4 Cr	Chemistry requirements: CHM 205 College Chemistry I 4 Cr CHM 206 College Chemistry II 4 Cr CHM 305 Organic Chemistry I 4 Cr
CHM 306 Organic Chemistry II 4 Cr OR CHM 313 Quantitative Chemical Analysis 4 Cr	CHM 313 Quantitative Chemical Analysis 4 Cr
Math requirements: MTH243 Elementary Statistics 3 Cr	Math requirements: MTH243 Elementary Statistics 3 Cr
Physics requirements: PHS 205-210 Intro to Physics I & II w/lab 8 Cr OR PHS 235-240 Physics I & II w/lab 8 Cr	Physics requirements: PHS 205-210 Intro to Physics I & II w/lab 8 Cr OR PHS 235-240 Physics I & II w/lab 8 Cr
Co-requisite Requirement: 27 credits	Co-requisite Requirement: 27 credits

3. A brief rationale for the changes (i.e. new direction of the field)

Changes to the Core Curriculum Requirement:

1. Our previous Core Curriculum consisted of BIO201 & 202 (General Biology I & II), BIO301 (Cellular Biochemistry) and BIO302 (Genetics). We are replacing BIO301 with the new courses BIO310 Biological Chemistry and BIO311 Biological Chemistry Laboratory and adding BIO315 Cell Biology to the Core.
 - a. The changes above reflect our Department's desire to ensure that students who complete their Medical Technology degree through The College at Brockport have taken the required courses in preparation for completing their Clinical Year at RGH and fulfilling the New York State requirements for Medical Technology licensure. The State Board requires either Analytical Chemistry and/or Biochemistry with lab. Students at Brockport will be required to take coursework in BOTH as part of their degree program.
 - b. The generation of two new required courses in our core curriculum, BIO310 Biological Chemistry and BIO311 Biological Chemistry Laboratory will serve as a comprehensive introduction to biochemistry for our majors, achieving the necessary student learning outcomes for State Licensure. This simplifies the old course progression through CHM306, BIO467, and BIO470 lab and lessens the number of credits needed to deliver the Biochemistry learning outcomes.
 - c. Importantly, we have also decided to modernize our curriculum to include Cell Biology as a core requirement (new BIO315). With much debate over whether to require a biochemistry course OR a cell biology course as part of our Core Major Requirements, we came to the realization that our students need BOTH to be adequately prepared for graduation with a B.S. in Medical Technology. This will enhance the prerequisite knowledge these majors have for courses like Immunology and Immunology Lab at the 400-level.

Changes to the Course Requirements

In consultation with our Clinical affiliates, we have implemented an Immunology Laboratory (BIO430) and added this as a required course – although some Immunology lab techniques are part of the Clinical Year curriculum, we anticipate that this may become a requirement for Licensure in the near future. The addition of BIO430 Immunology Lab as a requirement is specifically in response to State Licensure Requirements for Medical Technology. Previously, these learning outcomes were satisfied during the Clinical Internship, but now we must address them in the curriculum here at The College at Brockport.

Addressing the Change in Credit Hours

This transition to a 5-course core isn't without costs; the resulting Med Tech major will be increasing credits by 4. However, this places the major more in line with the expectations of a BIO major. Even with equivalent curricular modifications, the BIO major credit totals are not changing and remain at 64-65 credits. We feel that this strengthens the preparation of our students without burdening them.

Criteria for Progression

Based on the practice of our sister institutions (SUNY Fredonia and SUNY Plattsburg), discussions with the Clinical Affiliates and credentials of students that they have admitted in the last five years, we are proposing a minimum GPA as criterion for progression to the Clinical Year. When reviewing proposals that seek licensure qualifying status, SED will examine the progression criterion for the Clinical Year. In the past, we did not specify a GPA requirement as the progression criterion. If a licensure qualifying program were not to stipulate a progression criterion, SED will expect any and all students can reasonably expect admission to the Clinical Year. However, some of our Clinical Affiliates now have minimum GPA requirements for acceptance to the Clinical year, typically based upon the average GPA

in prerequisite science courses. This is the reason why we are proposing a minimum GPA for applying for the Clinical Year. Based on our discussions with the Clinical Affiliates and the credentials of students that they have admitted in the last five years (See Attached Appendix A), we are proposing a GPA of at least 2.75 in prerequisite science courses as the progression criterion.

Fallback Option

The catalog description of the program and all advisement-related documents will state this progression criterion explicitly and prominently. Students not meeting this criterion will also have a fallback option. They can change their major to Biology; the courses required for the Biology and Medical Technology majors in the first three years are nearly identical, with one exception, which has an easy remedy. After matriculating into the Medical Technology major, if a student decides to switch to a Biology major, he/she will have the option to finish the extant Biology major by completing the following Biology courses based on advisement:

- **One 400-level elective course (must be a lab if haven't take BIO423 General Micro)**
- **BIO 498 Senior Seminar (1 credit)**

Even after completing the first three years as a Medical Technology major, the transition to a Biology major will allow students who do not get accepted into a Clinical Program to complete their Biology degree in 4 years. They can then reapply to a Clinical Program, or also apply to an Advanced Certificate Program, such as the recently established program at the University of Rochester Medical Center.

4. A description of any new courses

BIO315 Cell Biology (A). *Prerequisite BIO310.* Covers cellular structure and function and the interrelationship between them. Topics include cellular components, energy and metabolism, protein structure and function, membranes and transport, cell signaling, cytoskeleton, cell division and stem cells. 3 Cr. Fall

- Expected enrollment each Fall is ~85-100 students

BIO310 Biological Chemistry (A). *Prerequisite: a grade of C or better in both BIO201 & BIO202 for BIO and Med.Tech majors, and CHM206.* A one-semester introduction to biochemistry concepts. Engages students in the chemical foundations of life, bioenergetics, enzyme regulation and kinetics, and cellular metabolism. Closed to students who have taken BIO468. 3 Cr. Spring

- Expected enrollment each spring is ~85-100 students

BIO311 Biological Chemistry Laboratory (A). *Prerequisite or Corequisite: BIO310.* Illustrates biological chemistry concepts using hands-on examples. Students will work independently and in teams. Activities may include modules on making solutions, titrations and pH, generating standard curves, protein determination assays, gel electrophoresis, mammalian cell culture, fluorescence microscopy and Michaelis-Menten kinetics in a three hour per week lab. 1 Cr. Every Semester

- Expected enrollment each semester is ~48 students (2 sections)

5. Staffing issues

Related to BIO315 Cell Biology:

Addition of BIO315 Cell Biology will increase our need for one additional lab course section needed to be covered by a Graduate Assistant each spring semester. Dr. Rongkun Shen has historically been teaching Bioinformatics, Seminar and a lab section of BIO201 or BIO111 each spring. His student contact is low compared to the rest of the faculty in the department. His oversight of BIO315 Cell Biology will improve his yearly contact with students, but will require coverage of the BIO201 or BIO111 section by a GA.

Related to BIO310 Biological Chemistry: Dr. Laurie Cook currently teaches BIO301 lecture and two laboratory sections each spring. We will transition BIO310 (Fall) as a replacement for BIO301 (Spring). As a result, her contact hours with students will remain unchanged and no additional staffing is required for this transition.

Related to BIO311 Biological Chemistry Laboratory: A major change is our desire to offer this course in both the fall and spring semesters. This will actually allow Dr. Laurie Cook to cover more of the laboratory sections herself rather than having a need for a GA, and as a result will offer her selection of 400-level electives less often (one of three courses on a rotating basis each spring semester).

Related to BIO430 Immunology Laboratory: As a required part of the Medical Technology curriculum, this course must be taught on a yearly basis. We currently have an adjunct scheduled to teach this in the Spring semester because Dr. Pelletier has been asked to run a trailer section of BIO323 Microbiology as a service need to Pre-nursing majors.

6. Resources, facilities that may be needed to implement the program

Existing lecture facilities will be needed for BIO310 and BIO315 to hold approximately 100 students in the fall and spring semesters. Existing course. There is time available for these sections.

7. Letters of support

- a) Nancy Mitchell, Program Director, RGH
- b) Margaret Logan, Chair of Chemistry and Biochemistry
- c) Letter of support from Dr. Laurie Cook, Interim Chair, Biology
- d) Letter of support from Dean Jose Maleikel, School of Arts and Sciences

Appendix A

RECENT STUDENTS ACCEPTED FOR MEDICAL TECHNOLOGY-THE COLLEGE AT BROCKPORT GPA

AT THE TIME OF ACCEPTANCE

FALL 2016	FALL 2015	FALL 2014
3.71	4.00	3.12
3.53	3.36	3.79
4.00	3.91	3.42
3.70	3.80	3.93
3.90	3.00	3.21
3.32	3.86	3.50
3.42		3.28
3.82		3.25
3.27		3.80

FALL 2013	FALL 2012
3.20	3.00
4.00	2.70
4.00	3.10
3.35	4.00
3.88	3.80
3.48	2.90
2.89	3.50

Appendix B - NYS State Licensure Requirements for Clinical Laboratory Technology

<http://www.op.nysed.gov/prof/clt/part52-38.htm>

Effective, August 21, 2008

§52.38 Clinical laboratory technology.

In addition to meeting all applicable provisions of this Part, to be registered as a program recognized as leading to licensure as a clinical laboratory technologist, which meets the requirements of section 79-13.1 of this Title, the program shall:

- a. be a program in clinical laboratory technology leading to a baccalaureate or higher degree or advanced certificate which contains didactic and clinical education that integrates pre-analytical, analytical, and post-analytical components of laboratory services, including the principles and practices of quality assurance/ quality improvement, and which is designed and conducted to prepare graduates to practice clinical laboratory technology using independent judgment and responsibility;
- b. include coursework, which shall include a laboratory component in each area, in each of the following subject areas or their equivalent as determined by the department:
 1. inorganic chemistry;
 2. analytic chemistry and/or biochemistry;
 3. clinical chemistry;
 4. physiology, with anatomy content;
 5. immunology/serology;
 6. immunohematology (Blood Bank);
 7. hematology/hemostasis, and body fluids;
 8. molecular biology and diagnostics; and
 9. microbiology and clinical microbiology, including bacteriology, mycology, parasitology, and virology; and
- c. include curricular content in each of the following subject areas or their equivalent, as determined by the department:
 1. organic chemistry;
 2. statistics;
 3. infection control and universal precautions (standard precautions);
 4. the maintenance of equipment and records; and
 5. ethics; and
- d. include a supervised clinical experience of at least 30 hours per week for at least 24 weeks or its equivalent as determined by the department, in the practice of clinical laboratory technology, which provides the student with clinical experience that includes but is not limited to: hematology/hemostasis, clinical chemistry, immunohematology, urinalysis/body fluids, clinical microbiology, and immunology.

Letter of Support – Department Chair



The College at
BROCKPORT
STATE UNIVERSITY OF NEW YORK

**350 New Campus Drive
Brockport, New York 14420**

November 9, 2017

To the Committee,

The Department of Biology is requesting College Senate Approval for a new core course requirement of Cell Biology, the addition of specific courses (listed below) for state licensure and minimum GPA for clinical year consideration for our current Medical Technology major.

The College at Brockport currently has an affiliation with RGH, which allows our Medical Technology majors to complete the required 1-year clinical internship in order to receive the B.S. Medical Technology degree. In order to fully meet state guidelines for licensure qualifying status of our program, we have changed the Medical Technology major in four ways.

- 1) We will now require a new revised core curriculum of Biological Chemistry with Lab, Genetics and Cell Biology
- 2) We will require CHM 313 Quantitative Chemical Analysis.
- 3) We will require Immunology Lab
- 4) A GPA minimum (overall and in prerequisite science courses) has been added as a new progression criterion

The addition of these criteria will better allow our program to acquire state licensure qualifying status. While it increases the credits in the major by 4 credits, it is a necessary revision for the continuation of our program so that students are able to meet prerequisite requirements of the clinical internship.

Therefore, I fully support this proposal.

Sincerely,

Laurie B. Cook, Ph.D.
Associate Professor & Interim Chair
Biology

Letter of Support – Dean

Letter of Support – Nancy Mitchell, Program Director, RGH

**ROCHESTER
REGIONAL HEALTH**

ROCHESTER GENERAL HOSPITAL
Department of Pathology and Laboratory Medicine 1425 Portland Avenue
Rochester, NY 14621-3095 P 585.922.9870

October 6, 2017

To: Dr. Craig Lending

From: Nancy C. Mitchell, MS, MT(ASCP)DLM
Program Director, Clinical Laboratory Technology Program Re: Letter of

Support for Curricular Changes

I fully support the curricular changes as proposed at SUNY Brockport, including requiring Quantitative Chemical Analysis, requiring an Immunology laboratory component, and establishing a science/math minimum GPA requirement for progression in the major.

Please do not hesitate to contact me should questions arise.

Nancy C. Mitchell

Letter of Support – Chair Chemistry & Biochemistry



The College at
BROCKPORT
STATE UNIVERSITY OF NEW YORK
Department of Chemistry and Biochemistry

October 3, 2017

Laurie--

The Department of Chemistry and Biochemistry supports the changes in the Medical Technology degree program.

Sincerely yours,

Margaret E Logan

Margaret E. Logan, PhD
Associate Professor and Chair
Department of Chemistry and Biochemistry
585-395-5594
mlogan@brockport.edu



The College at
BROCKPORT
STATE UNIVERSITY OF NEW YORK

School of Arts and Sciences

Date: 16 October 2017

To: Sandeep Singh
President, College Senate

From: Jose Maliekal 
Dean, School of Arts and Sciences

Re: Proposal submitted to the College Senate by the Department of Biology to revise the requirements of the Medical Technology major with the Clinical Year at the Rochester General Hospital (RGH).

I write to express my endorsement of and support for the proposal that the Department of Biology is submitting to the College Senate to revise the requirements of the Medical Technology major with Clinical Year at RGH. Proposed revisions reflect the current requirements of the state agency that issues licenses for individuals to practice as Medical Technology professionals. Additionally, the proposed revisions should pave the way for the Medical Technology major to secure licensure qualifying status from the State Education Department (SED). Securing this status would make the process that our graduates would have to undergo in order to secure their licenses to practice as Medical Technology professionals seamless.

Courses required to implement the proposed revisions are all in place; for that reason, the department is not seeking any new resources. As a degree program that is approved by the College Senate, and for which student demand is high, the Medical Technology major will continue to enjoy the support of the Dean's Office.

