

4-15-2015

## 3+4 Affiliation Agreement for a Combined Bachelor of Science and Doctor of Pharmacy (PharmD)

The College at Brockport, College Senate

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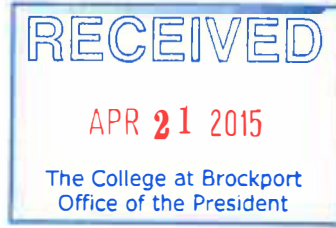


The College at  
**BROCKPORT**  
STATE UNIVERSITY OF NEW YORK

350 New Campus Drive  
Brockport, New York 14420  
585-395-2586 \* 585-395-2246 (fax)  
senate@brockport.edu  
brockport.edu/collegesenate

Resolution #17 2014-2015  
**College Senate**

Supersedes Res #: \_\_\_\_\_




TO: Dr. John R. Halstead, College President

FROM: The College Senate: **04/06/2015**

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

SUBJ: **3+4 UBSPSS and Brockport** (#25\_14-15UC)

Signed:  Date: 4/13/15  
(P. Gibson Ralph, 2014-15 College Senate President)

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

TO: P. Ralph Gibson, 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 2015  
**\*\*Implementation of resolution requires final approval from SUNY- State Education Department.       YES X 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:  Date: 4/27/15  
(Dr. John R. Halstead, President, The College at Brockport)

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**COLLEGE SENATE OFFICE  
RESOLUTION PROPOSAL COVER PAGE  
DEADLINE FOR SUBMISSIONS: FEBRUARY 28**

Incomplete proposals will be returned and proposals received after the deadline may not be reviewed until next semester.

<b>Routing Number</b> <i>Routing # assigned by Senate Office 2014-2015</i>	<b>#25_14-15UC</b> <i>Use routing number and title in all reference to this proposal.</i>
<b>This Proposal Replaces Resolution</b>	

**INSTRUCTIONS**

- Use committee guidelines available at [brockport.edu/collegesenate/proposal.html](http://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](mailto:senate@brockport.edu). (General Education Proposals and questions go to [diamphro@brockport.edu](mailto: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](mailto:senate@brockport.edu).
- Questions? Call the Senate office at 395-2586 or the appropriate committee chairperson.

1. **PROPOSAL TITLE:** Please be somewhat descriptive, ie. *Use a course number and/or title, indicate if for GED code, etc.*

3+4 Affiliation Agreement for a Combined Bachelor of Science and Doctor of Pharmacy (PharmD)

2. **BRIEF DESCRIPTION OF PROPOSAL:**

Affiliation agreement between SUNY, University at Buffalo, School of Pharmacy and Pharmaceutical Sciences (SPPS) and the College at Brockport, SUNY

3. **WILL ADDITIONAL RESOURCES AFFECTING BUDGET BE NEEDED?**  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.**

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

Although transfer students can participate in this program, it would likely require careful planning in conjunction with transfer institution.

6. **ANTICIPATED EFFECTIVE DATE:**

7. **SUBMISSION & REVISION DATES:** PLEASE DATE ALL REVISED DOCUMENTS TO AVOID CONFUSION.

<i>First Submission</i>	<i>Updated on</i>	<i>Updated on</i>	<i>Updated on</i>
02/16/15			

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

<i>Name</i>	<i>Department</i>	<i>Phone</i>	<i>Email</i>
<i>Stephen Godleski</i>	<i>Chemistry &amp; Biochemistry</i>	<i>5595</i>	<i>sgodlesk@brockport.edu</i>

9. **COMMITTEES: (Senate office use only)**

<b>Standing Committee</b>	<b>Forwarded To</b>	<b>Dates Forwarded</b>
<input type="checkbox"/> Executive Committee	<b>Standing Committee</b>	02/16/14
<input type="checkbox"/> Enrollment Planning & Policies	<b>Executive Committee</b>	02/23/15, 03/09/15
<input type="checkbox"/> Faculty & Professional Staff Policies	<b>Senate</b>	03/23/15, 04/06/15
<input type="checkbox"/> General Education & Curriculum Policies	<b>Passed GED's go to Vice Provost</b>	
<input type="checkbox"/> Graduate Curriculum & Policies	<b>College President</b>	04/21/15
<input type="checkbox"/> Student Policies	<b>OTHER</b>	
<input checked="" type="checkbox"/> Undergraduate Curriculum & Policies	<b>REJECTED -WITHDRAWN</b>	

NOTES: **RES #17**

**AFFILIATION AGREEMENT  
BETWEEN  
THE COLLEGE AT BROCKPORT, SUNY  
AND  
THE STATE UNIVERSITY OF NEW YORK, UNIVERSITY AT BUFFALO,  
SCHOOL OF PHARMACY AND PHARMACEUTICAL SCIENCES**

This agreement establishes procedures to promote the easy transition of qualified students from The College at Brockport, SUNY to the 3 + 4 Doctor of Pharmacy (PharmD) Program in the State University of New York, University at Buffalo, School of Pharmacy and Pharmaceutical Sciences (SPPS).

***Objectives of this Agreement:***

- To promote the easy transition of qualified students from the College at Brockport, SUNY to the 3+4 Doctor of Pharmacy Program at SPPS. With the 3+4 program, students complete three years of their undergraduate education at the College at Brockport. They then apply for admission to UB SPPS through PharmCAS (PharmD national application service). If admitted to the UB SPPS pharmacy program, they start the Doctor of Pharmacy and credits they earn during the first year of the PharmD curriculum are recognized by the College at Brockport and are applied toward completion of their bachelor degree.
- To provide specific information for students who wish to pursue a PharmD degree at SPPS
- To attract qualified students to The College at Brockport and SPPS
- To encourage academic coordination and faculty/administrative interaction, between The College at Brockport and SPPS
- To exchange outcome information on the 3 + 4 PharmD program.

**Rationale**

Under these agreements, students are able to fulfill the requirements for the Bachelor of Science and Doctor of Pharmacy (PharmD) degrees in a shorter amount of time. Instead of taking four years to complete the undergraduate degree and another four years to complete the Doctor of Pharmacy degree, students complete both programs in seven years. In addition to being a savings of time and money to our students, we believe the College will benefit from increased numbers and quality of applicants. Also, there is included in the affiliation agreement, a guaranteed minimum number of seats (2) at UB SPPS for Brockport students who are deemed fully acceptable by the University at Buffalo PharmD Admissions Committee.

The number of Brockport students interested in pursuing a Doctor of Pharmacy degree has grown over the last 5 years to approximately 5 applying each year. It is believed this number will continue to grow in part because of this affiliation with SPPS but also because of the predicted need for pharmacists. According to the American Association of Colleges of Pharmacy "the demand for trained pharmacy professionals has increased in past years due to the rapid growth of the healthcare and pharmaceutical industries, especially for the growing elderly population. The number of pharmacists in healthcare services is also growing, as pharmacists become more actively involved in drug therapy decision-making for patients of all ages. A shortfall of as many as 157,000 pharmacists is predicted by 2020 according to the findings of a conference sponsored by the Pharmacy Manpower Project, Inc."

Students have until October of their Junior Year to decide if they want to participate in this program. Prior to this they only need express interest and in consultation with departmental advisers make sure they are taking the necessary classes to remain eligible.

UB SPPS currently has established 3+4 Affiliation Agreements with the following institutions:

Canisius College  
 Chongqing Medical University  
 Fredonia (anticipated Fall 2015)  
 Gannon University (anticipated Fall 2015)  
 Houghton College  
 Mercyhurst University (anticipated Fall 2015)  
 Niagara University  
 Penn State Erie – The Behrend College  
 Roberts Wesleyan College  
 SUNY Plattsburgh (anticipated Fall 2015)

**Resources**

No additional resources will be required by this affiliation agreement.

**Course requirements as specified by SPPS:**

For the fall 2015 entering class, students will have completed at least one year of English composition, one year of biology, one year of general chemistry, one year of organic chemistry, one year of calculus, one semester of physics, one semester of statistics, one semester of microbiology, one semester of anatomy, one year of physiology, one semester of biochemistry, and one semester of any social or behavioral science by the end of the summer semester prior to the fall semester in which the student will enter the first year of the PharmD program.

Outline of Courses for years one, two and three to be completed at the College at Brockport:

BS in Biology - 3 Year Plan

First Year

Fall

<b>BIO 201 Biology I</b>	<b>4 cr</b>
<b>CHM 205 Chemistry I</b>	<b>4 cr</b>
<b>ENG 112 College Composition</b>	<b>3 cr</b>
<b>MTH 122 Pre-Calculus</b>	<b>3 cr</b>
GEP 100 Academic Planning Seminar	1 cr
Total	15

Spring

<b>BIO 202 Biology II</b>	<b>4 cr</b>
<b>CHM 206 Chemistry II</b>	<b>4 cr</b>
<b>ENG 210 Creative Writing</b>	<b>3 cr</b>
<b>MTH 243 Elem. Statistics</b>	<b>3 cr</b>
Fine Arts	3 cr
Total	17

Second Year

Fall

BIO 302 Genetics	4 cr
<b>CHM 305 Organic Chemistry I</b>	<b>4 cr</b>
<b>MTH 201 Calculus I</b>	<b>4 cr</b>
<b>Social Science</b>	<b>3 cr</b>
Oral Communication	3 cr
Total	18

Spring	
<b>BIO 301 Cellular Biochemistry</b>	<b>4 cr</b>
<b>CHM 306 Organic Chemistry II</b>	<b>4 cr</b>
<b>MTH 202 Calculus II</b>	<b>4 cr</b>
Humanities (History)	3 cr
Social Science	3 cr
Total	17

### Third Year

Fall	
<b>BIO 323 Microbiology</b>	<b>4 cr</b>
<b>PHS 205 Intro to Physics I</b>	<b>4 cr</b>
<b>BIO 321 A&amp;P I</b>	<b>4 cr</b>
Perspectives on Gender	3 cr
BIO 467 Biochemistry I	3 cr
(unless BIO 301 is sufficient for the biochemistry requirement)	
Total	15/18

Spring	
BIO 498 Seminar	1 cr
<b>PHS 210 Intro to Physics II</b>	<b>4 cr</b>
<b>BIO 322 A&amp;P II</b>	<b>4 cr</b>
Humanities (Other World Civ.)	3 cr
Contemporary Issues	3 cr
Total	15

Total Credits 3 Yr Plan= 97-100

- Above schedule has the Foreign Language waived or received High School credit.
- Courses in bold courses meet UB requirements for the program.

### BS in Biochemistry – 3 Year Plan

The completion of the 3 year plan described below would be challenging and would require careful planning and advisement to ensure that all Gen Ed requirements would be met. A possible set of Gen Ed classes is shown in the Table. We have also included the usual plan for Biochemistry majors for comparison. Note that in order to complete the UB SPPS biology requirements a student would need to substitute Analytical (CHM 303) for Inorganic (CHM 302) and Microbiology (BIO 323) for Molecular (BIO 415). This would be accomplished by a waiver for students in the 3+4 program. Note also that this schedule has the Foreign Language requirement waived or received by High School credit.

Normal Biochemistry Major				
Year	Fall Semester	Cr.	Spring Semester	Cr.

<i>Freshman</i>	CHM 205 (College Chemistry I)	4	CHM 206 (College Chemistry II)	4
	BIO 201 (Biology I)	4	BIO 202 (Biology II)	4
	ENL 112 (Composition)	3	MTH 202 (Calculus II)	4
	MTH 201 (Calculus I)	4		
	GEP 100 (Academic Planning)	1		
	GEP 150 (Computer Skills)	1		
	Semester Total	17	Semester Total	12
<i>Sophomore</i>	CHM 305 (Organic Chemistry I)	4	CHM 306 (Organic Chemistry II)	4
	BIO 302 (Genetics)	4	PHS 240 (Physics II)	4
	PHS 235 (Physics I)	4		
	Semester Total	12	Semester Total	12
<i>Junior</i>	CHM 467 (Biochemistry I)	3	CHM 468 (Biochemistry II)	3
	CHM 470 (Biochemistry Lab)	1	CHM 404 (P. Chem. for Bio. Sci.)	3
	CHM 301 (Chemical Safety)	1	CHM 407 (P. Chem. for Bio. Sci. Lab)	1
	Semester Total	5	Semester Total	7
<i>Senior</i>	CHM 302 (Inorganic Chemistry)	4	CHM 401 (Chemistry Seminar II)	1
	CHM 400 (Chemistry Seminar I)	1	BIO 415 (Molecular Biology)	
	BIO 401 (Cell Biology)			3
	Semester Total	5	Semester Total	4

### 3+4 Pharmacy Program

Year	Fall Semester	Cr.	Spring Semester	Cr.
<i>Freshman</i>	CHM 205 (College Chemistry I)	4	CHM 206 (College Chemistry II)	4
	BIO 201 (Biology I)	4	BIO 202 (Biology II)	4
	ENL 112 (Composition)	3	MTH 202 (Calculus II)	4
	MTH 201 (Calculus I)	4	ENG 220 (H)	3
	GEP 100 (Academic Planning)	1	THE 111 (F)	3
	GEP 150 (Computer Skills)	1		
	Semester Total	17	Semester Total	18
<i>Sophomore</i>	CHM 305 (Organic Chemistry I)	4	CHM 306 (Organic Chemistry II)	4
	BIO 302 (Genetics)	4	PHS 240 (Physics II)	4
	PHS 235 (Physics I)	4	MTH 243 (Statistics) or HLS 488	3
	ANT 101 (D,S,W)	3	CMC 219 (H,Y)	3
	THE 221 (P)	3	WMS 101 (D,S,W,Y)	3
	Semester Total	18	Semester Total	17
<i>Junior</i>	CHM 467 (Biochemistry I)	3	CHM 468 (Biochemistry II)	3
	CHM 470 (Biochemistry Lab)	1	CHM 404 (P. Chem. for Bio. Sci.)	3
	CHM 301 (Chemical Safety)	1	CHM 407 (P. Chem. for Bio. Sci. Lab)*	1
	CHM 400 (Chemistry Seminar I)	1	CHM 400 (Chemistry Seminar II)	1
	BIO 323 (Microbiology)	4	CHM 303 (Analytical)	4
	BIO 321 (A + P I)	4	BIO 322 (A + P II)	4
	CHM 373 (I,W,Y)	3		
	Semester Total	17	Semester Total	16

Total Credits 3 Yr Plan = 103

**Baccalaureate Degree for the 3+4 Program.** Students will be awarded a baccalaureate degree, BS in Biology or Biochemistry from The College at Brockport - State University of New York upon receipt of an official transcript from the State University of New York, University at Buffalo, School of Pharmacy and Pharmaceutical Sciences indicating successful completion, grade of C or better, of the courses taken during the first year of UB's curriculum.

### **Transfer students**

Although in principle it is possible for transfer students to participate in this program, it is unlikely they would enroll at Brockport having completed the proper courses. It is our intent to advertise this program to the community colleges in the area so allow them to appropriately advise students who are interested in the program.

### **Description of any new courses**

None required

### **Academic administration commentary**

February, 2015

To: Undergraduate Curriculum Committee, College Senate

I support the Senate proposal from the Departments of Biological Sciences and Chemistry and Biochemistry for the establishment of an affiliation agreement between the College at Brockport, SUNY and the University of Buffalo School of Pharmacy and Pharmaceutical Sciences to allow students to obtain a B.S. and a PharmD degree in a total of seven years (3+4). Under such a program students are able to fulfill the requirements for the Bachelor of Science and Doctor of Pharmacy (PharmD) degrees in a shorter amount of time. Instead of taking four years to complete the undergraduate degree and another four years to complete the Doctor of Pharmacy degree, students complete both programs in seven years. In addition to being a savings of time and money to our students, we believe the College will benefit from increased numbers and quality of applicants. There also is included in the affiliation agreement, a guaranteed minimum number of seats at UB SPPS for Brockport students who are deemed fully acceptable by the University at Buffalo PharmD Admissions Committee.

The Department of Chemistry and Biochemistry realizes that the 3 year curriculum outlined for a Biochemistry major to participate in this program is particularly challenging, but we believe pre-pharmacy students should be capable of meeting this challenge and we intend to supply the necessary advising to assist them in this process. Under this agreement, a student essentially "self-declares" his/her interest in the program and maps out the necessary curriculum. There is no formal commitment by the student until they undertake the application process in their third year. As a result, any student who starts the curriculum can opt out at any time they find it too challenging with essentially no consequence.



Stephen A. Godleski  
Professor and Chair  
Department of Chemistry and Biochemistry  
The College at Brockport, SUNY





The College at  
**BROCKPORT**  
STATE UNIVERSITY OF NEW YORK

Dean, School of Letters and Sciences

Feb 9, 2015

To : The College Senate

From: T.M. Rao,

Associate Dean,

School of Science and Mathematics


Regarding:

Proposal from the Department of Chemistry and Biochemistry

I have reviewed the above proposal from the Department of Chemistry and Biochemistry. It proposes to establish a 7-year (3 at Brockport, and 4 at UB) program leading to BS degree from Brockport and PharmD degree from the School of Pharmacy and Pharmaceutical Sciences (SPPS) at UB. Normally the students interested in the Pharmacy degree would have to complete their 4-year undergraduate degree first and then spend another four years to complete the PharmD. This joint program proposes to shorten the total time to seven years – saving time and money for the students. The joint program would also attract quality students to Brockport's Biology or Biochemistry majors. In addition, the affiliation agreement includes a guaranteed minimum number of seats at UB SPPS for Brockport students who are deemed fully acceptable by the University at Buffalo PharmD Admissions Committee.

The courses required for the joint program are regularly offered at Brockport, and students interested in the joint program can be accommodated in such courses. The proposal clearly states that NO additional resources affecting the budget are necessary.

The Dean of the School of Science and Mathematics strongly supports this proposal and recommends its approval by the College Senate.

  
T.M. Rao  
Associate Dean



The College at  
**BROCKPORT**  
STATE UNIVERSITY OF NEW YORK

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

February 10, 2015

To the Committee,

The Department of Biology is requesting College Senate Approval for a new affiliation agreement between Brockport and the University of Buffalo titled, 3+4 Affiliation Agreement for a Combined Bachelor of Science and Doctor of Pharmacy (PharmD). This affiliation will allow interested and qualified students to reduce the time required to receive a PharmD degree from the University of Buffalo by one year. Therefore, the department fully supports this proposal.

Sincerely,

Rey Antonio L. Sia, Ph.D.  
Department Chair  
Associate Professor  
Dept. of Biology  
[rsia@brockport.edu](mailto:rsia@brockport.edu)

**AFFILIATION AGREEMENT  
BETWEEN  
THE COLLEGE AT BROCKPORT, SUNY  
AND  
THE STATE UNIVERSITY OF NEW YORK, UNIVERSITY AT BUFFALO,  
SCHOOL OF PHARMACY AND PHARMACEUTICAL SCIENCES**

This Agreement is made by and between The College at Brockport, SUNY with its principal office located at Brockport, NY and The State University of New York, a corporation organized and existing under the laws of the State of New York, with its principal office located at University Plaza, Albany, New York 12246, by and on behalf of the University at Buffalo, The State University of New York, School of Pharmacy and Pharmaceutical Sciences with offices located at 270 Kapoor Hall, Buffalo, New York 14214-8033 [hereinafter referred to as "the University at Buffalo"].

**PURPOSE**

- I. The College at Brockport and the University at Buffalo School of Pharmacy and Pharmaceutical Sciences agree to cooperate in providing an accelerated 3 + 4 undergraduate/professional school education leading to the bachelor of science degree from The College at Brockport and the Doctor of Pharmacy (PharmD) degree from the University at Buffalo. The first phase (undergraduate) of the collaborative program will consist of the completion of a minimum of 97 semester hours in the Biology or 103 semester hours in the Biochemistry BA or BS program/major at The College at Brockport and, for the fall entering class, thirty-seven (37) semester hours from the first-year of the four-year curriculum of the Doctor of Pharmacy program at the University at Buffalo. Under this agreement, the student would then receive a baccalaureate degree from The College at Brockport and, upon approval of the University at Buffalo, the student will complete the remaining years of professional study and requirements for the Doctor of Pharmacy degree. This is a seven-year program developed between The College at Brockport and the University at Buffalo that allows a participating student the opportunity to receive a baccalaureate degree and a Doctor of Pharmacy degree. The first three years of the program are completed at The College at Brockport and the last four years are spent at the University at Buffalo.

**II. GUIDELINES FOR COLLABORATIVE PROGRAM ADMISSION TO THE DOCTOR OF PHARMACY PROGRAM**

The PharmD Admissions Committee is seeking the following minimum requirements. In order to remain in the program(s), a participant must achieve or maintain the following:

1. Earn (on the 4.0 grading system) the following minimum grade point averages at The College at Brockport:
  - (a) Prerequisite course science and mathematics GPA 3.3 (90<sup>th</sup> percentile or grade A on the 100 point scale)
  - (b) Overall GPA 3.3 (90<sup>th</sup> percentile or grade A on the 100 point scale)
  - (c) Each prerequisite course must successfully be completed with a grade equal to, or greater than, a C (2.0) by the end of the summer semester prior to fall admission.
  - (d) For the fall entering class, students will have completed at least one year of English composition, one year of biology, one year of general chemistry, one year of organic chemistry, one year of calculus, one semester of physics, one

semester of statistics, one semester of microbiology, one semester of anatomy, one year of physiology, one semester of biochemistry, and one semester of any social or behavioral science (see the [Undergraduate Catalog](#)) and all [University at Buffalo General Education Requirements](#) or The College at Brockport General Education Requirements by the end of the summer semester prior to the fall semester in which the student will enter the first year of the PharmD program. See here: [Prerequisite Courses](#).

2. Submit an application through the Pharmacy College Application Service (PharmCAS) during the fall of their junior year, no later than October 1 following these steps: <http://pharmacy.buffalo.edu/pages/35/PharmCAS-Admissions.htm>
3. Take the PCAT (Pharmacy College Admission Test) <http://www.pcatweb.info/> The PCAT is required for all PharmCAS applicants. University at Buffalo does not have a minimum PCAT score requirement; however, competitive applicants typically present a score of at least 300. The score we consider is the Percentile Rank (not Scaled Scores) using the sum of each item under the Percentile Rank (Verbal Ability, Biology, Reading Comprehension, Quantitative Ability, and Chemistry) to determine the score (not the Composite Score). If taken twice, we consider the higher of the two. We will not accept any PCAT test over three years old. We do accept the January PCAT even though PharmCAS will receive the scores after the February 1 deadline. A minimum score of "3" must also be obtained on the written essay component of the PCAT. A maximum of two (2) test administrations will be allowed.
4. Receive a favorable letter of recommendation from the Pre-Health Advisory Committee of The College at Brockport as a part of the 3 required PharmCAS letters of recommendation.
5. Meet the University at Buffalo PharmD Supplemental Application and Application Fee deadline of March 1.
6. Maintain the appropriate moral and ethical standards necessary for admission and for the eventual attainment of professional licensure.
7. Upon invitation, the University at Buffalo will also require a formal interview with designated interviewers as part of the PharmD admissions process. Information regarding this requirement will be provided following the receipt of all application documents.
8. Selection is based on scholastic achievement, aptitude, personal qualifications, and evidence of motivation toward pharmacy. These are judged from the college record, grade point average, the PCAT, letters of reference and evaluation, a Supplemental Admission Application, and a personal interview. In addition to intellectual and academic competence, the School's Admissions Committee considers communication skills, leadership ability, community service, health care-related or research experience, and motivation for pursuing a career in pharmacy.
9. All students enrolled in the PharmD program must submit a Criminal Background Check (CBC) and a Drug Screen from a vendor approved by UB SoPPS at the student's expense. The CBC is due within 15 days of the acceptance confirmation email. Drug Screens will be assigned randomly throughout the four years in the professional program.
10. At the end of the first and second years, participants must submit an official transcript of grades to the PharmD Admissions Committee. Their performance in the program will be evaluated and they will receive a written or electronic response informing them of their status. Failure of a participant to achieve or maintain these standards will result in his or her removal from the program. Unsuccessful application or discontinuance following acceptance will not preclude direct application to the University at Buffalo through its PharmCAS application process and will not be considered in any future admissions review process.
11. A candidate in good standing will have the option of spending the fourth year of the program at The College at Brockport to complete a baccalaureate degree rather than at the University at Buffalo in the first year of the PharmD program. Choosing this option will necessarily extend the length of the program to eight years. During the fourth year at The College at Brockport, a participant must maintain the same academic standards as specified for the first three years in order to remain in good standing.

## II. MUTUAL RESPONSIBILITIES

1. The College at Brockport agrees to:
  - (a) Provide courses that meet the prerequisite requirements for the Doctor of Pharmacy (PharmD) program at the University at Buffalo's School of Pharmacy and Pharmaceutical Sciences.

(b) Designate a person who will serve as coordinator of the collaborative program at The College at Brockport. The coordinator is and will:

- (i) be responsible for promoting the affiliation to prospective and current students by providing information to the university admissions staff, career planning and placement officers, the Pre-Health Advisory Committee at The College at Brockport Committee members, and all pre-pharmacy student advisors.
- (ii) keep students and pharmacy student advisors abreast of current information applicable to the affiliation.
- (iii) maintain advising files for The College at Brockport students who intend to apply to the collaborative program.
- (iv) serve as liaison between The College at Brockport and the University at Buffalo School of Pharmacy and Pharmaceutical Sciences for any and all issues involving the affiliation.

Confer the baccalaureate degree on candidates who successfully complete all degree requirements of The College at Brockport, and who successfully complete the first year of professional study at the University at Buffalo School of Pharmacy and Pharmaceutical Sciences. Students must earn a minimum of 97 semester hours in the Biology or Biochemistry BA or BS at The College at Brockport, and for the fall, thirty-seven (37) semester hours from the first-year of the four-year curriculum of the Doctor of Pharmacy program at the University at Buffalo to receive the Biology or Biochemistry BA or BS baccalaureate degree. For the fall entering class, the first year in the PharmD program at the University at Buffalo will include sciences courses or their equivalents listed here: [http://pharmacy.buffalo.edu/files/uploads/admissions/PharmD\\_Courses\\_Curriculum.pdf](http://pharmacy.buffalo.edu/files/uploads/admissions/PharmD_Courses_Curriculum.pdf) Only grades of C or better will transfer from the University at Buffalo to The College at Brockport. University at Buffalo courses and credits, but not grades, will be listed on the The College at Brockport transcript.

2. The University at Buffalo agrees to:

(a) Designate a person who will serve as coordinator of the collaborative program at the University at Buffalo. The coordinator is:

Jennifer M. Hess, PhD  
Assistant Dean and Director of Admissions and Advisement  
School of Pharmacy and Pharmaceutical Sciences  
The State University of New York at Buffalo  
274 Kapoor Hall, Buffalo, NY USA 14214-8033  
716-645-2858 (phone)  
716-829-6568 (fax)  
[hessi@buffalo.edu](mailto:hessi@buffalo.edu)

- (i) serve as a liaison between the University at Buffalo and The College at Brockport for any and all issues involving the affiliation.
  - (ii) inform appropriate personnel of the existence of the agreement and encourage them to support it.
  - (iii) ensure that an official transcript from the first year of the PharmD program is forwarded to The College at Brockport in a timely fashion.
- (b) Guarantee a minimum of 2 seats in the incoming class for The College at Brockport students who are deemed fully acceptable by the University at Buffalo PharmD Admissions Committee. Applicants failing to meet the requirements of their conditional acceptance may not be enrolled. These individuals will be counted against the 2 seats guaranteed The College at Brockport.

- (c) The College at Brockport students who have been identified as candidates for this program will be invited to visit the University at Buffalo prior to their application either in-person or by videoconference. Information regarding affiliation program visit days will be provided to the College at Brockport liaison.
- (d) Liaisons from the two institutions will meet annually to evaluate the progress of the program.

### III. GENERAL CONSIDERATIONS

1. The College at Brockport will not charge tuition for the transitional year to students who enter the University at Buffalo PharmD program immediately following the junior year; however, The College at Brockport will require students to apply for graduation and pay all graduation fees. Students while enrolled at the University at Buffalo in that transitional year following their junior year at The College at Brockport shall be considered matriculated pharmacy doctoral students at the first professional year level in the graduate/professional phase of the doctoral program and shall pay the applicable SUNY graduate/professional PharmD tuition and all applicable fees.
  - (a) Any student participating in the affiliation program who wishes to apply for financial assistance should apply to The College at Brockport for the semesters during which the student shall be enrolled at The College at Brockport and to the University at Buffalo for the semesters during which the student shall be enrolled in the PharmD program. Students participating in this affiliation agreement shall not receive any preferential consideration in obtaining financial assistance over other students from institutions that are not so affiliated.
  - (b) The College at Brockport students shall not receive any preferential consideration by the University at Buffalo PharmD Admissions Committee; they will be held to the same rigorous standards as other applicants. Final admissions decisions will be solely at the discretion of the University at Buffalo.
2. Subject to the availability of lawful appropriations and consistent with the New York State Court of Claims Act, The State University of New York (SUNY) shall hold The College at Brockport harmless from and indemnify it for any final judgment of a court of competent jurisdiction to the extent attributable to the negligence of SUNY or of its officers or employees when acting within the course and scope of their employment in connection with this Agreement.
3. The College at Brockport shall indemnify, defend and hold harmless SUNY and the University of Buffalo School of Pharmacy and Pharmaceutical Sciences, and their trustees, officers, employees, agents, volunteers, successors and assigns from and against any and all claims, liabilities, damages, actions, costs and expenses, including, without limitation, attorneys' fees, arising out of or in any way related to The College at Brockport's conduct under or failure to comply with the terms and/or conditions of this Agreement.
4. The College at Brockport and the University of Buffalo School of Pharmacy and Pharmaceutical Sciences will fully comply with any applicable local, state and federal laws and regulations barring discrimination on the basis of race, religion, color, sex, age, national origin, handicap, sexual preference or veteran status. Notwithstanding anything in this Agreement, the Parties agree that The College at Brockport retains all of its rights under the First Amendment to the United States Constitution. The provisions of Exhibit A, State standard contract clauses, attached hereto, are hereby incorporated into this Agreement and made part hereof.

5. It is understood that this Agreement is not intended to and shall not be construed to create the relationship of agent, servant, employee, partnership, collaborative venture or association between The College at Brockport and the University at Buffalo School of Pharmacy and Pharmaceutical Sciences, but is rather an Agreement by and between independent institutions.

#### **IV. AMENDMENTS AND DURATION OF AGREEMENT**

Either party may take the initiative to amend this agreement by submitting suggestions in writing. The *amended* Agreement will become effective when signed by the respective agents authorized by each party to execute such amendments (*amendments are in italics*). This Agreement will go into effect beginning with the 2015-2016 academic year and will remain in effect until either party indicates otherwise in writing, at least one (1) year in advance. Any decision to terminate the program will not affect the status of any of The College at Brockport students currently accepted into or enrolled in the program at the School of Pharmacy and Pharmaceutical Sciences.

For purposes of written notification, all notices to parties hereunder must be in writing, signed by the party giving it, and shall be served either personally or by certified mail, return receipt requested, and addressed as follows:

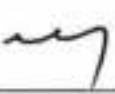
To the UNIVERSITY AT BUFFALO:


Vice President for Health Sciences  
University at Buffalo  
The State University of New York  
3435 Main Street, 201 Harriman Hall  
Buffalo, New York 14214


To the AFFILIATE:

Provost and Vice President for Academic Affairs  
The College at Brockport, SUNY  
350 New Campus Drive  
Brockport, NY 14420

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the dates set forth below:

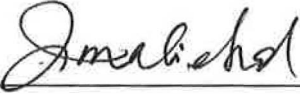
  
\_\_\_\_\_  
James O'Donnell, Ph.D. Date  
Dean  
School of Pharmacy and Pharmaceutical Sciences  
University at Buffalo, The State University of New York

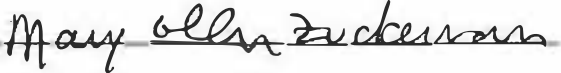
  
\_\_\_\_\_  
John T. Ho, Ph.D. Date  
Vice Provost for Graduate Education and  
Dean of the Graduate School  
University at Buffalo, The State University of New York

  
\_\_\_\_\_  
Michael E. Cain, M.D., Ph.D. Date  
Vice President for Health Sciences  
University at Buffalo, The State University of New York

## AFFILIATE SITE

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the dates set forth below:

  
\_\_\_\_\_  
Jose Maliekal, Ph.D. Date  
Dean  
School of Science and Mathematics  
The College at Brockport, SUNY

  
\_\_\_\_\_  
Mary Ellen Zuckerman, Ph.D. Date  
Provost and Vice President of Academic Affairs  
The College at Brockport, SUNY



The doctor of pharmacy curriculum at the UB SoPPS is designed to prepare students to serve as contemporary, compassionate, creative, and scholarly pharmacy practitioners, educators, researchers, and leaders in the advancement of the pharmacy profession. It provides the educational foundation for an entry-level pharmacy practitioner. The curriculum consists of courses in basic biomedical sciences, clinical sciences, pharmaceutical sciences, and pharmacy practice. The coursework is integrated with progressive patient-centered practice experiences with a focus centered on educating entry level practitioners capable of providing care. This program in pharmacy leads to licensure in any state provided that the graduate passes and obtains licensure in the state requested.

First Professional (P1) Year – Fall				First Professional (P1) Year – Spring			
Course#	Course Title	Course Coordinator	Credits	Course#	Course Title	Course Coordinator	Credits
PHC 501	Pharmaceutical Chemistry	Anderson	3	PHC530	Physical Pharmacy	Straubinger	3
PHC 529	Pharmaceutical Calculations	Ramanathan	3	PHM 501	Foundations of Pharmacotherapeutics 1	Bednarczyk	2
PHM 503	Pathophysiology 1	Prescott, G.	3	PHM 504	Pathophysiology II	TBD	3
PHM 505	Patient Assessment Lab	Prescott, W.	1	PHM 506	Patient Assessment Lab	Prescott, W.	1
PHM 515	Pharmaceutical Care 1	Wrobel	3	PHM 516	Self-Care Therapeutics	Slazak	2
PHM 581	IPPE-1a	Brody	1	PHM 530	Pharmacy Law	Fiebelkom	3
PMY 511	Principles of Pharmacology 1	Berman	4	PHM 582	IPPE-1b	Brody	1
PHM 555	All School	Fiebelkom	0	PMY 512	Principles of Pharmacology 2	Halvorsen	4
			<b>Total: 18 hrs.</b>	PHM 555	All School	Fiebelkom	0
							<b>Total: 19 hrs.</b>

Second Professional (P2) Year – Fall				Second Professional (P2) Year – Spring			
Course#	Course Title	Course Coordinator	Credits	Course#	Course Title	Course Coordinator	Credits
PHC517	Pharmacogenomics	Blanco	2	PHC 532	Pharmacokinetics and Pharmacodynamics 2	Balthasar	3
PHC 531	Pharmacokinetics and Pharmacodynamics 1	Mager	3	PHM 603	Immunology/Infectious Diseases Pharmacotherapeutics	Tsuji	3
PHM601	Cardiovascular/Renal Pharmacotherapeutics	Norgard	3	PHM 604	Ophthalmology/Dermatology/Nutrition/GI Pharmacotherapeutics	Wrobel	2
PHM 602	Endocrinology/Women's Health Pharmacotherapeutics	Albanese	2	PHM 606	Drug Information	Hong	2
PHM 615	Pharmaceutical Care 2	Daly, C.	1	PHM 616	Pharmaceutical Care 3	Doloresco	1
PHM 637	Contemporary Pharmacy Management and Practice	Fiebelkom	3	PHM 652	Professional Practice Lecture 2	Reiman	2
PHM 651	Professional Practice Lec 1	Reiman	2	PHM 652	Professional Practice Lab 2	Reiman	2
PHM 651	Professional Practice Lab 1	Reiman	2	PHM 682	IPPE-2b	Brody	1
PHM 681	IPPE-2a	Brody	1	PHM 555	All School	Fiebelkom	0
PHM 555	All School	Fiebelkom	0	Electives or Research		Various	2
			<b>Total: 19 hrs.</b>				<b>Total: 18 hrs.</b>

Updated 9/2014

Third Professional (P3) Year – Fall				Third Professional (P3) Year – Spring			
Course #	Course Title	Course Coordinator	Credits	Course #	Course Title	Course Coordinator	Credits
PHM 701	Neurology/Psychiatry/Substance Abuse Pharmacotherapeutics	Gengo	3	PHM 703	Oncology/Hematology Pharmacotherapeutics	Ceacareanu	3
PHM 702	Pulmonary/Toxicology/Rheumatology Pharmacotherapeutics	Woodruff	3	PHM 704	Geriatrics/Pediatrics/Critical Care Pharmacotherapeutics	Fusco	3
PHM 705	Biostatistics in Pharmacy	Krzyzanski	2	PHM 716	Pharmaceutical Care 5	Hempel	1
PHM 706	Informatics and Health Information Systems	Doloresco	2	PHM 730	Topics in Pharmacy Law	Fiebelkom	1
PHM 715	Pharmaceutical Care 4	Wahler	1	PHM 736	Pharmacoeconomics and Pharmacoepidemiology	Paladino	2
PHM 729	Pharmacy Ethics	Fiebelkom	2	PHM 782	IPPE-3b	Brody	3
PHM 781	IPPE-3a	Brody	3	PHM 555	All School	Fiebelkom	0
PHM 555	All School	Fiebelkom	0	Electives or Research		Various	4
Electives or Research		Various	2				<b>Total: 17 hrs.</b>
			<b>Total: 18 hrs.</b>				

Fourth Professional (P4) Year - Advanced Pharmacy Practice Experiences			
Course #	Course Title	Course Coordinator	Credits
PHM 820	Inpatient Care	Pasko	6
PHM 821	Inpatient Care SP	Pasko	6
PHM 823	Outpatient Care	Albanese	6
PHM 824	Outpatient Care SP	Albanese	6
PHM 831 or PHC 815	Clinical Research Elective or Pharmaceutics Research Elective	Forrest/Ma Mager	6
PHM 841	Professional Practice Elective	Catanzaro	6
PHM 850	Professional Development	Brody	1
6 Experiential Rotations. Each for 6 weeks and worth 6 hours.			
			<b>Total: 37 hrs.</b>

### PHC 501 Pharmaceutical Chemistry

The course examines concepts relating to the chemical basis of drug action in order to make drug therapy decisions. The relationship between the biological target and the drug entity that produces a biological response requires an integrated knowledge of the drug target, the manner in which the drug interacts with the target and factors that provide the drug with a measure of specificity.

### PHC 517 Pharmacogenomics

This course consists of lectures and in class exercises designed to introduce the principles and concepts in pharmacogenomics and personalized medicine. The course goal is to give students an understanding of the principles of pharmacogenomics and personalized medicine, such that they can then apply these skills to patient care.

### PHC 529 Pharmaceutical Calculations

Pharmaceutical Calculations is a 3-credit course open to students in PharmD program only. The purpose of the course is to develop competencies in techniques for identifying, analyzing and solving pharmaceutical problems involving calculations. The topics covered include Prescription Interpretation, Dosing Calculations, Infusions, Concentrations and Chemical Calculations, Dilution and Reconstitution, Isotonicity and Radiopharmaceuticals.

### PHC 530 Physical Pharmacy

Physical chemical properties of drugs; theory and practice applicable to design and evaluation of drug dosage forms; principles of solubility, solution equilibria, chemical kinetics, heterogeneous systems, solids.

### PHC 531-PHC 532 Pharmacokinetics and Pharmacodynamics 1 and 2

A study of factors influencing the absorption, distribution, excretion and metabolism of drugs in man and the role these processes play in the therapeutic and adverse effects of drugs. Elementary compartmental modeling, mechanisms of drug absorption, mechanisms of renal clearance, and assessment of drug bioavailability.

### PHM 501 Foundations of Pharmacotherapeutics

#### PHM 601 Cardiovascular/Renal Pharmacotherapeutics

#### PHM 602 Endocrinology/Women's Health Pharmacotherapeutics

#### PHM 603 Immunology/Infectious Diseases Pharmacotherapeutics

#### PHM 604 Ophthalmology/Dermatology/Nutrition/GI Pharmacotherapeutics

#### PHM 701 Neurology/Psychiatry/Substance Abuse Pharmacotherapeutics

#### PHM 702 Pulmonary/Toxicology/Rheumatology Pharmacotherapeutics

#### PHM 703 Oncology/Hematology Pharmacotherapeutics

#### PHM 704 Geriatrics/Pediatrics/Critical Care Pharmacotherapeutics

Pharmacotherapeutics (PT) consists of NINE courses that start in the spring of your first professional year and continues through your third professional year of the doctor of pharmacy Program (PharmD). Upon completion of this course sequence, you should be able to advance the level of clinical patient management through the understanding and utilization of pharmacotherapeutic principles. In your first professional year, the course is designed to give you a foundation related to the health care environment and orient you to the application of clinical laboratory data. Topics in the remaining courses in the second and third professional years may build upon one another (e.g. immunology before rheumatology) or not.

therapy management, poison prevention, syringes and needles, Medicaid and Medicare, institutional and long term care as well as many others. As pharmacists, we apply the law every day in profession no matter which practice setting we are involved.

### PHM 555 All School

This is not an actual course, but a required seminar time for all professional pharmacy students to have available for events, which are announced throughout the semester.

### PHM 606 Drug Information

PHM 606 is a 2-credit hour course offered in the Spring Semester to students in the second and third professional year of the Doctor of Pharmacy program. The course builds on drug information retrieval skills first introduced to students in the first professional year coupled with drug literature evaluation.

### PHM 615-PHM 616 Pharmaceutical Care 2 and 3

Pharmaceutical Care II is designed to emphasize patient-oriented pharmaceutical care skills. Class content is designed to run concurrently with the pharmacotherapeutics class and enhance or demonstrate concepts or skills designed for small groups. A variety of patient centered approaches, including writing notes to prescribers or other health care professionals and device counseling are used in this class. This class builds on some of the foundational knowledge of professional writing, communication, and diseases that were introduced in pharmaceutical care I & II.

### PHM 637 Contemporary Pharmacy Management and Practice

The changing health care environment requires that pharmacists practicing in all settings become efficient and effective purveyors of pharmaceutical care. Pharmacists command high salaries and as a consequence are expected to manage a pharmacy's resources to maximize the potential of the corporation's employees, finances, inventory, and time to achieve the desired health and economic outcomes. Changes in pharmacy scope of practice, health care laws and reduction in reimbursement have mandated that all pharmacists, supervisors and staff alike, be well versed in business management techniques. This course will cover all aspects of pharmacy business management including, but not limited to, accounting and finance; human resource management issues; inventory pricing and control; marketing and promotion; leadership; advocacy; Medicaid and Medicare; time management and investments. Students will learn to apply these skills to successfully operate a pharmacy practice encompassing independent, chain, and ambulatory and consultant fields.

### PHM 651-PHM 652 Professional Practice Lecture and Laboratory 1 and 2

Practical application of drug dosage formulation, the storage, preparation, dispensing and compounding of medicines and the use of non-medications which include but are not limited to: solid and liquid dosage forms, intravenous admixtures, and devices. Emphasis is on application of pharmaceutical preparations, mathematical skills, pharmacy law, critical thinking, patient education/counseling and practitioner consultation.

### PHM 705 Biostatistics in Pharmacy

This course focuses on practical areas of statistics applied to pharmacy and pharmaceutical sciences. It is an introductory course covering topics in hypothesis testing, analysis of variance,

### PHM 503-PHM 504 Pathophysiology 1 and 2

The PHM 503 and 504 courses are designed to provide you with a basic understanding of pathophysiologic mechanisms of diseases and normal physiologic compensatory function. The emphasis is on bridging basic science to clinical practice through integrated understanding of molecular and functional alterations in cells, tissues, and organ systems of diseases. In your first semester, the course sequence will begin with general pathology at the molecular, cellular, and tissue levels, followed by integrated organ system diseases by mid-first semester and throughout the second semester. A structured framework has been developed to include epidemiology, etiology, pathogenesis, and clinical manifestations of disease.

### PHM 505-PHM 506 Patient Assessment 1 and 2

This is a course sequence designed to expose students to the process of patient assessment, so that future functions of the profession in the assessment arena are more easily developed, and so that a common database and understanding can be shared with other health care professionals. The goal of this course sequence is to give students the tools to be capable of determining how specific diagnoses are achieved based on an interview and assessment of subjective and objective data, including but not limited to physical examination findings and laboratory parameters. Students are expected to recognize and/or elicit certain common findings using interview and assessment techniques, with emphasis on those assessment techniques commonly performed by pharmacists in both the ambulatory and inpatient settings. This is not a course that will prepare students to be able to diagnose or perform most of the physical exam techniques at such a level of competence that would allow for diagnosis, but will give students an elementary understanding within this area of practice and improve the pharmacist's ability to effectively assess medical problems and triage patients as is commonly done in practice. Students will be exposed to small group didactic classes with a practicum component.

### PHM 515 Pharmaceutical Care 1

Pharmaceutical Care 1 introduces the basic fundamentals of the pharmacy profession and practice to the first professional year student (P1). The main ideas to be discussed in this course are counseling (patient interviewing and communication) and pharmacists' documentation.

### PHM 516 Self-Care Therapeutics

Self-Care is defined as the independent act of preventing, diagnosing, and treating one's own illnesses without seeking professional advice. This includes, but is not limited to, general care measures and nonprescription drugs. This course is designed to prepare future pharmacists to assess whether patients are candidates for self-care and to recommend appropriate self-care measures for commonly encountered self-manageable conditions. Please see UB Learns for the practicum schedule, as you only need attend your scheduled sections.

### PHM 530 Pharmacy Law

This course is intended to provide instruction in the laws, rules and regulations that pertain to the practice of pharmacy in New York State along with a detailed understanding of federal laws and mandates. The material presented will serve as a template for the pharmacist's and pharmacy student's legal knowledge. Pharmacy law is dynamic and changes frequently as the pharmacist scope of practice evolves along with new treatment options. Major topics include requirements for prescriptions and e-prescribing, regulations from the NYS Board of Pharmacy, the NYS Bureau of Narcotic Enforcement, the Drug Enforcement Administration and the Food and Drug Administration. Other topics include regulations involving immunizations, collaborative drug

regression, and correlation. Topics are illustrated by examples and case studies culled from recent biomedical literature. After completing this course students will be able to read, understand, discuss, and integrate the statistical parts of the pharmacy, pharmaceutical, and biomedical literature.

### PHM 706 Informatics and Health Information Systems

This is a two-hour course designed for PharmD students scheduled to graduate in 2016 or later. It introduces the concepts and tools required to understand the use of informatics in pharmacy practice. The field of health informatics includes the development, deployment, and use of hardware and software technologies to enhance patient care including improvements in efficiency and safety. Key items that will be discussed include software such as electronic medical records, computerized provider order entry/e-prescribing, and clinical decision support tools as well as hardware solutions such as robotic dispensing/picking, bar code medication administration, and automated dispensing cabinets.

### PHM 715-PHM 716 Pharmaceutical Care 4 and 5

Pharmaceutical Care V was developed to continue to develop skills needed by pharmacists and pharmacy students preparing for APPE. Topics included in this course were selected from surveys of faculty, preceptors, P4 students and alumni who were asked to list items that would be useful to students on APPE and new practitioners. Two main themes will be encountered: (1) Identification, extraction and interpretation of data to be communicated to other health care practitioners and (2) Orientation to products often supplied by pharmacists to elderly patients (integrated with PHM 512 Pharmacotherapeutics Geriatrics section).

### PHM 730 Pharmacy Ethics

Pharmacy is a profession that has undergone several dramatic changes over recent years. Standards of practice, changing health care systems and regulations along with changes in reimbursement have made health care challenging. Providing health care in this environment can pose many ethical situations and choices. Students need to know the legal and ethical ramifications of decisions they make to understand proper patient health care. Students in PHM 732 will be required to present various scenarios that pharmacists encounter in practice.

### PHM 736 Pharmacoeconomics and Pharmacoepidemiology

The student will gain insight into the concept, methodologies, and application of the science of pharmacoeconomics and its importance to pharmacy practice. The goal is to explore how pharmacoeconomics impacts pharmacy, regardless of what type of healthcare setting the pharmacist practices in.

### PMY 511-PMY 512 Principles of Pharmacology 1 and 2

Explores principles of drug action on biological systems, action mechanism of each agent class on specific organ systems, a review and extension of pertinent physiologic concepts of that system, chemical structure-drug activity relationships, sites of action, metabolic patterns of principal drugs, and therapeutic and toxicologic aspects.

**Introductory Pharmacy Practice Experience (IPPE):****PHM 581: IPPE-1a; PHM 582: IPPE-1b**

These courses are the first of three levels of progressive IPPE activities. Students complete approximately 50 hours of experiential education throughout their first professional year. They will complete approximately 25 hours during the fall semester (PHM 581) and 25 hours during the spring semester (PHM 582) of both shadowing and community education activities (service-based learning). Students will be asked to observe pharmacy-related activities including but not limited to, patient and inter-professional interactions, dispensing techniques, formulating pharmaceutical preparations, patient counseling, drug delivery devices, medication therapy management, service learning, medication error prevention and reporting, pharmacoinformatics, and wellness clinics. All students will also participate in group reflection sessions, various professional training and related assignments, case studies, as well as creating an IPPE journal, in which they will continuously document and reflect on all experiences they complete throughout all levels of the IPPE course sequence. These experiences and related activities will continue to be integrated with the doctor of pharmacy curriculum to further enhance their clinical skills and contribute to their overall development as a pharmacy healthcare professional.

**PHM 681: IPPE-2a; PHM 682: IPPE-2b**

This course is the second of three levels of progressive IPPE activities where students are to complete a minimum of 100 hours of experiential education throughout their second professional year. Students will be asked to perform and complete tasks including but not limited to, patient and inter-professional interactions, dispensing techniques, formulating pharmaceutical preparations, patient counseling, drug delivery devices, medication therapy management, service learning, medication error prevention and reporting, pharmacoinformatics, and wellness clinics. P2 students are now licensed pharmacy interns in NYS and can perform actual pharmacy practice activities under the supervision of a pharmacist. They will complete approximately 50 hours during the fall semester (PHM 681) and 50 hours during the spring semester (PHM 682). All students will also participate in group reflection sessions, various professional training and related assignments, case studies, as well as the continuation of documenting and reflecting on all experiences via their IPPE journal. These experiences and related activities will continue to be integrated with the doctor of pharmacy curriculum to further enhance their clinical skills and contribute to their overall development as a pharmacy healthcare professional.

**PHM 781: IPPE-3a; PHM 782: IPPE-3b**

This course is the end of the third and final level of progressive IPPE activities where students are to complete a minimum of one-hundred fifty (150) hours of experiential education throughout their third professional year. Students will be asked to perform and complete tasks including but not limited to: patient and inter-professional interactions, dispensing techniques, formulating pharmaceutical preparations, patient counseling, drug delivery devices, medication therapy management, service learning, medication error prevention and reporting, pharmacoinformatics, and wellness clinics. The theme of this particular course will be "mini-APPE" rotations, meaning it will attempt to mimic and directly prepare them for the full-time advanced pharmacy practice experiences (APPE) which takes place the following year. A P3 student will complete three different rotations of approximately forty to fifty-five (40-55) each over the course of the summer, fall, and spring semesters. With the addition of assignments and projects that can take place both on and off-site, students will get an introductory exposure to what their fourth professional year will be like (completing advanced pharmacy practice experience full-time).

**Advanced Pharmacy Practice Experience (APPE):****PHM 820, PHM 821, PHM 823, PHM 824, PHM 831, PHC 815, PHM 841, and PHM 850**

The advanced pharmacy practice experiences are designed to build on the previous academic base with a wide range of exposure to various clinical pharmacy practice environments and medical sub-specialty areas. Advanced pharmacy practice experiences are academic learning experiences in both patient care and non-patient care settings and are a vital component of the doctor of pharmacy program. The advanced pharmacy practice experiences involve the students in the provision of advanced clinical pharmacy services and provide experience in various medical sub-specialty environments. Major goals are the development of independent judgment and the integration of fundamental knowledge with clinical applications.

NOTE: The School of Pharmacy and Pharmaceutical Sciences reserves the right to change courses as needed in order to achieve curricular outcomes in accordance with Accreditation Standards and Guidelines. Please check our website for future updates ([www.pharmacy.buffalo.edu](http://www.pharmacy.buffalo.edu)).

**CORPORATE, PARTNERSHIP OR INDIVIDUAL ACKNOWLEDGEMENT**

STATE OF NEW YORK }

: SS.:

COUNTY OF Erie }

On the 29<sup>th</sup> day of May in the year 2015, before me personally appeared: Michael Cain, known to me to be the person who executed the foregoing instrument, who, being duly sworn by me did depose and say that he/she resides at Buffalo, New York, County of Erie, State of NY; and further that:

**[Check One]**

**If an individual:** \_\_\_he executed the foregoing instrument in his/her name and on his/her own behalf.

**If a corporation:** \_\_\_he is the \_\_\_\_\_ of \_\_\_\_\_, the corporation described in said instrument; that, by authority of the \_\_\_\_\_ of said corporation, he/she is authorized to execute the foregoing instrument on behalf of the corporation for purposes set forth therein; and that, pursuant to that authority, he/she executed the foregoing instrument in the name of and on behalf of said corporation as the act and deed of said corporation.

**If a partnership:** \_\_\_he is the VP Health of Universities at Buffalo, SUNY, the partnership described in said instrument; that, by the terms of said partnership, he/she is authorized to execute the foregoing instrument on behalf of the partnership for the purposes set forth therein; and that, pursuant to that authority, he/she executed the foregoing instrument in the name and on behalf of said partnership as the act and deed of said partnership.

Kimberly S Krzemien  
Notary Public

Kimberly S Krzemien  
NOTARY PUBLIC - State of New York  
Qualified in Erie County  
Reg. No. 01KRS112053  
My Commission Expires: July 12, 2016

CORPORATE, PARTNERSHIP OR INDIVIDUAL ACKNOWLEDGEMENT

STATE OF NEW YORK }

: SS.:

COUNTY OF Monroe }

On the 5<sup>th</sup> day of May in the year ~~2014~~ <sup>2015</sup>, before me personally appeared: Jose Maliekal known to me to be the person who executed the foregoing instrument, who, being duly sworn by me did depose and say that he/she resides at The College at Brockport, SUNY, County of Monroe, State of New York; and further that: Mary Ellen Zuckerman

**[Check One]**

If an individual: he executed the foregoing instrument in his/her name and on his/her own behalf.

If a corporation: he is the \_\_\_\_\_ of \_\_\_\_\_, the corporation described in said instrument; that, by authority of the \_\_\_\_\_ of said corporation, he/she is authorized to execute the foregoing instrument on behalf of the corporation for purposes set forth therein; and that, pursuant to that authority, he/she executed the foregoing instrument in the name of and on behalf of said corporation as the act and deed of said corporation.

If a partnership: 5 he is the Provost & VP Academic Affairs of The College at Brockport, SUNY, the partnership described in said instrument; that, by the terms of said partnership, he/she is authorized to execute the foregoing instrument on behalf of the partnership for the purposes set forth therein; and that, pursuant to that authority, he/she executed the foregoing instrument in the name and on behalf of said partnership as the act and deed of said partnership.

Deborah H. Lamphron  
Notary Public

**DEBORAH H. LAMPHRON**  
Notary Public State of New York  
Qualified in Monroe County  
Commission Expires 11-6-2016

COMMISSION EXPIRES  
NOTARY PUBLIC STATE OF NEW YORK  
NOTARY PUBLIC STATE OF NEW YORK  
NOTARY PUBLIC STATE OF NEW YORK