

ARTICULATION AGREEMENT BETWEEN
THE UNIVERSITY OF MARYLAND EASTERN SHORE AND
FROSTBURG STATE UNIVERSITY

Dual-Degree Program for a
Bachelor of Science Degree in Chemistry and
a Doctor of Pharmacy Degree

1. INTRODUCTION AND OBJECTIVES

The University of Maryland Eastern Shore (UMES) and Frostburg State University (FSU) agree to provide a cooperative undergraduate/professional program leading to a Bachelor's of Science (B.S.) degree from FSU and a Doctor of Pharmacy (Pharm.D.) degree from UMES.

Such a cooperative program is being created and sustained in an effort to fulfill the following mutual objectives:

- a. To attract qualified students to UMES and FSU.
- b. To cooperatively provide a qualified student the opportunity to complete the baccalaureate degree and the Pharm.D. degree in six years, two years less than the traditional time of eight years.
- c. To facilitate the transition of students from FSU to UMES.
- d. To provide advisement for students at FSU who intend to pursue professional study at UMES.
- e. To encourage academic and administrative coordination between the institutions and the exchange of evaluative information on outcomes of the program with the goal of continual improvement.

2. OVERVIEW

To offer the students at FSU the opportunity to pursue a BS in Chemistry from their home institution and a Pharm.D. degree from UMES in six years. The dual-degree program will require the FSU students to spend their first three years at FSU and their last three years at UMES. The FSU students will earn their B.S. degree in Chemistry from FSU after they have completed the necessary courses in their first professional year of the Doctor of Pharmacy program, which corresponds to the fourth year of the dual-degree program. The Pharm.D. degree will be awarded after successful completion of all of the degree requirements in the professional program. The parties to this collaboration will offer the appropriate combination of courses to ensure that a student can complete the

requirements for the B.S. in Chemistry from FSU and the Pharm.D. from UMES in six years.

3. **ADMISSIONS CRITERIA**

In order to participate in this program, students must apply and be admitted to the University of Maryland Eastern Shore School of Pharmacy (UMESSOP). Students are subject to all applicable UMES admissions and graduation requirements. The admissions criteria and general information regarding the admissions process is summarized below. Additional information can be found here:

<https://www.umes.edu/PharmD/>

General Information

- a. UMESSOP matriculates a new class annually beginning in the second week of July.
- b. Primary applications must be submitted through PharmCAS at www.pharmcas.org. A supplemental application is also required and can be found here: <https://www.umes.edu/PharmD/Content/How-to-Apply/>
- c. Admission to the program is competitive and granted on a rolling basis for applications typically received no later than March 1st. Please check the UMESSOP website for more information.

<https://www.umes.edu/PharmD/Content/How-to-Apply/>

- d. The UMESSOP does accept international students with a current visa. International students may need to provide a certificate of finance along with a bank statement bank or scholarship letter, no more than six months old, addressed to the University of Maryland Eastern Shore verifying the availability of funds to cover tuition, fees, and other direct costs associated with enrolling at the university. Students who are citizens or permanent residents of the United States must provide proof of residency.

3 + 3 Dual Degree Criteria

Consideration for admission will be based on the applicant's potential for academic and professional achievement and an assessment of written and verbal communication skills, critical thinking skills, integrity, dedication, motivation, character and maturity. To be considered for admission to UMESSOP portion of the 3 + 3 program, a prospective student must:

- a. Be enrolled at FSU in the third year of the Chemistry program. Students should plan to apply to the Doctor of Pharmacy Program in the fall of their third year at FSU.

- b. Earn a grade of C (2.0) or better in each prerequisite course. All pre-pharmacy coursework must be completed by **the end of the spring semester** annually prior to matriculation.
- c. Earn a minimum grade point average of 3.3 (both science/math and cumulative) on a 4.0 scale. The GPAs are calculated based on the pre-requisite course work listed in Appendix I.
- d. Obtain a recommended minimum of 50 on the Pharmacy College Admission Test (PCAT) exam, in cycles where the PCAT is required for admission.
- e. Submit an application to PharmCAS (www.PharmCas.org).
- f. Submit all transcripts to PharmCAS. Academic performance will be only be evaluated for prerequisite course work undertaken by the students, but transcripts for all college coursework must be submitted to PharmCAS.
- g. Submit a required minimum of three recommendations letters directly to PharmCAS.
- h. Submit a personal statement directly to PharmCAS.
- i. Complete the UMESSOP supplemental application.
- j. Complete the UMESSOP's on-campus personal interview with members of the Faculty and of the Admissions Committee (by invitation only).
- k. Provide all required documents including transcripts, medical forms, and other pre-matriculation requirements.
- l. Satisfy the Technical Standards for admission to the program as listed on the UMESSOP's website.

4. **ADMISSIONS PROCEDURE**

Counseling and admissions of students entering the Pharm.D. program through this Articulation Agreement will be through the following procedures and policies:

- a. Application for undergraduate admissions will be made to FSU, where the prospective student will be subject to the admission requirements of FSU.
- b. FSU is responsible for informing students, who are applying for admission to the Pharm.D. program at UMES through this Articulation Agreement, of the admission criteria as described above.
- c. FSU will provide a copy of the UMES-FSU 3+3 Curriculum Overview which lists the courses required to satisfy both degree requirements (Appendix I).

- i. Through academic advising at FSU, students will be made aware of the courses available at FSU that will be used to meet degree requirements for the 3+3 Program.
- ii. A prospective, accepted, or matriculated FSU student may indicate the desire to follow the 3+3 Program:
 - a) at the time of the student's admission to FSU or
 - b) early enough in the student's undergraduate academic program at FSU to permit the student to complete as many of the prerequisite courses for admission to the 3+3 Program at UMES.
- iii. FSU students who have a 3.3 cumulative grade point average (GPA) and meet all criteria for admission as outlined in this agreement will be guaranteed an interview with the faculty.
- iv. UMES will guarantee admission for up to five FSU students annually into its Doctor of Pharmacy program via the 3+3 pathway provided they:
 - successfully complete the requirements of FSU's Chemistry program and;
 - maintain a minimum 3.3 GPA and;
 - obtain a score of at least 50 on the Pharmacy College Admission Test (PCAT) and;
 - have a successful interview.

While UMES guarantees admission for up to 5 FSU students, additional FSU students may be accepted into the program as negotiated annually.
- v. FSU students not admitted to 3+3 Program through this Articulation Agreement may apply to the Pharm.D. program in their senior year.

5. REQUIREMENTS FOR DUAL-DEGREE STUDENTS WHILE AT FSU AND FOR THE DEGREE

- a. The student must complete a minimum of 98 semester credit hours and general education requirements at FSU.
- b. The student must submit all of the required documents for admission to the Pharm.D. program.
- c. The student must complete all of the prerequisite courses for the Pharm.D program (see Appendix I).
- d. The student must achieve a cumulative grade point average of 3.3 or better over the

first three years of coursework at FSU.

- e. In order for the B.S. in Chemistry at FSU to be awarded, students must successfully complete all of the specified required courses in the UMES Pharmacy curriculum (see Appendix II) An official transcript from UMES will be submitted to the FSU Office of the Registrar by the UMES Office of the Registrar upon completion of these courses.
- f. The student must satisfy all other graduation requirements according to the academic policies set by FSU.

6. REQUIREMENTS FOR DUAL-DEGREE STUDENTS WHILE AT UMES AND FOR THE PHARM.D. DEGREE

- a. The student must complete all of the specified first year professional courses in the Pharm.D. program to satisfy the requirements for the B.S. in Chemistry degree.
- b. The UMES Office of the Registrar must submit an official transcript from UMES to the FSU Office of the Registrar after successful completion of all of the specified first year professional courses.
- c. The student must successfully complete all of the courses (164.5 credits) in the professional program to be awarded the Pharm.D. degree (see Appendix I).
- d. The student must satisfy all other graduation requirements according to the academic policies set by UMES.

7. POLICIES AND REGULATIONS

Students will be required to comply with the rules and regulations governing academic performance, grade appeals, and student behavior as established and published by FSU and UMES, respectively, depending on the institution at which the student is currently enrolled or where the applicable event/conduct occurred.

8. TUITION AND FEES

Students involved in this collaboration will be responsible for tuition and fees in accordance with the policies established by the institution in which they are enrolled.

9. RESPONSIBILITIES OF BOTH PARTIES

a. FSU shall:

- i. Recruit highly qualified students who show promise in becoming excellent pharmacy professionals.
- ii. Identify a 3+3 program advisor.
- iii. Counsel and screen applicants for admission to FSU during the first three years of undergraduate course work.
- iv. Assure that FSU students have met the graduation requirements of FSU.
- v. Work with UMES on promotional materials about the 3+3 Program.
- vi. Provide to UMES a list of all *potential* applicants to the 3+3 Program no later than July 1st of each academic year.
- vii. Provide regular updates about curricular changes as they relate to the Chemistry program.
- viii. Ensure the Chemistry program maintains compliance with all of the accreditation/regulatory standards.

b. UMES shall:

- i. Work closely with the FSU 3+3 program advisor to advise the cohort of FSU students each year.
- ii. Grant the Pharm.D. degree to students who have successfully completed the 3+3 Program.
- iii. Provide to FSU an annual list of students who entered the Pharm.D. program via this Articulation Agreement and successfully completed the program.
- iv. Provide regular updates about curricular changes as they relate to the Pharm.D. program.
- v. Ensure the Pharm.D. program maintains compliance with all of the accreditation standards mandated by the Accreditation Council for Pharmacy Education.

10. MUTUAL TERMS AND CONDITIONS

- a. Term of Agreement. This agreement shall be reviewed in the spring after the first cohort has been accepted in the Pharm.D. program and every two years thereafter. The Agreement will be in effect for a period of five years from the date it is signed by

all necessary parties, and may be renewed upon mutual agreement through a renewed agreement.

- b. Termination of Agreement. UMES and FSU may terminate this Agreement for any reason with ninety (90) days advanced written notice. Should UMES and FSU terminate this Agreement prior to the completion of an academic semester, all students enrolled at that time may continue their educational experience until it would have been concluded absent the termination.
- c. Modifications and Amendments of Agreement. This Agreement shall only be modified in writing with the same formality as the original Agreement. If appendices require updates, this Agreement may be amended by written agreement of the parties made subsequent to this agreement. To be effective, such amendments must make explicit reference to this agreement and must be signed by authorities with signature authority for the respective institutions.
- d. Nondiscrimination. The parties agree to continue their respective policies of nondiscrimination based on Title VI of the Civil Rights Act of 1964 in regard to sex, age, race, color, creed, veteran status, gender identify, and national origin, Title IX of the Education Amendments of 1972 and other applicable laws, as well as the provisions of the Americans with Disabilities Act.
- e. Assignment. Neither party shall assign, sell, or otherwise transfer this Agreement without prior written consent of the other. Any such purported assignment, sale or transfer shall be void.

11. DESIGNATED REPRESENTATIVES

The following are the designated representatives for each institution for purposes of implementing this agreement and for any notices required to be given under this agreement.

For the University of Maryland Eastern Shore:

T. Sean Vasaitis, M.S., Ph.D.

Assistant Dean for Student Affairs

School of Pharmacy

University of Maryland Eastern Shore

Princess Anne, MD 21853

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For Frostburg State University:
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ARTICULATION AGREEMENT

We, the undersigned, agree to the articulation of courses and requirements for the B.S. degree in Chemistry at Frostburg State University and the Doctor of Pharmacy degree offered by the University of Maryland Eastern Shore, as indicated on the attached.

DocuSigned by:
Dr. Heidi M. Anderson 7/8/2021
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Dr. Heidi M. Anderson Date
President
University of Maryland Eastern Shore
Princess Anne, MD 21853

DocuSigned by:
Ronald Nowaczyk 7/8/2021
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Dr. Ronald H. Nowaczyk Date
President
Frostburg State University
Frostburg, MD 21532

DocuSigned by:
Dr. Nancy S. Niemi 7/8/2021
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Dr. Nancy S. Niemi Date
Provost and Vice President for
Academic Affairs
University of Maryland Eastern Shore
Princess Anne, MD 21853

DocuSigned by:
Michael B. Mathias 7/8/2021
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Dr. Michael B. Mathias Date
Interim Provost and Vice President for
Academic Affairs
Frostburg State University
Frostburg, MD 21532

APPENDIX I: FSU and UMES 3 + 3 Curriculum Overview (BS Chemistry/ PharmD)

	Fall Credits	Spring Credits
FSU Year 1		
*CHEM 201 – General Chemistry I	4	
*BIOL 149/159 – General Biology	4	
*ENGL 101/111 – First Year Composition	3	
*MATH 236 – Calculus I	4	
ORIE 101 – Intro. To Higher Education	1	
*CHEM 202 – General Chemistry II		4
*BIOL 304 – Microbiology		4
MATH 237 – Calculus II		4
*ECON 200 or 201/211 – Economics		3
FSU Year 2		
*CHEM 311 – Organic Chemistry I	3	
*CHEM 312 – Organic Chemistry Lab I	1	
BIOL 310 – Cell Biology	4	
*BIOL 321 – Anatomy & Physiology I	4	
IDIS 150 – FSU Colloquium	3	
CHEM 304 – Computational Techniques	2	
*CHEM 321 – Organic Chemistry II		3
*CHEM 322 – Organic Chemistry Lab II		1
*BIOL 322 – Anatomy & Physiology II		4
#GEP Fine & Performing Arts		3
#GEP Humanities		3
#GEP Social Science		3
FSU Year 3		
CHEM 320 – Quantitative Analytical Chemistry	4	
CHEM 455 – Biochemistry I	3	
*MATH 109/110 or 280 - Statistics	3	
*PHYS 215 or 261 – Physics I	4	
GEP Identity and Difference	3	
CHEM 305 – Research Methods		3
*CMST 102/112 or 122- Communication		3
*ENGL 338/339- Advanced Writing		3
PHYS 216/262 – Physics II		4
#GEP Humanities		3
Total Credits	50	48

*-prerequisite course for the Pharm.D. program

#-will satisfy the Humanities/Social Sciences prerequisite

APPENDIX I (CONT'D): FSU and UMES 3 + 3 Curriculum Overview (BS Chemistry/ PharmD)

UMES Year 1	Fall Credits	Spg/Sum Credits
PHAR 530 Pharmaceutics and Biopharmaceutics	4.5	
PHAR 501 Basics of Drug Information and Introduction to Pharmacy Profession	1.5	
PHAR 510 Fundamentals of Drug Action and Metabolism	3	
PHAR 511 Genetic Controls of Cell Function, Cell Reproduction and Protein Synthesis	2.5	
PHAR 512 Metabolism of Carbohydrates, Lipids, and Amino Acids	4	
PHAR 523 Endocrine System: Pharmacology and Medicinal Chemistry	1.5	
PHAR 540 Pharmacy Administration I – Health Care Delivery	2	
PHAR 550 Pharmaceutical Calculations	2	
PHAR 542 Concepts in Diversity and Communication For The Pharmacist	3	
PHAR 561 Professional Development I	1	
PHAR 571 IPPE I	5	
PHAR 520 Principles of Neurobiology and Neuropharmacology		1
PHAR 525 Neuropharmacology and Medicinal Chemistry		3.5
PHAR 521 Cardiovascular & Renal: Pharmacology and Medicinal Chemistry		2
PHAR 522 Gastrointestinal & Genitourinary: Pharmacology and Medicinal Chemistry		1
PHAR 513 Hematology and Immunology		4
PHAR 531 Pharmacokinetics		3.5
PHAR 524 Toxicology		1
PHAR 541 Pharmacy Law		1.5
PHAR 514 Biostatistics and Clinical Trial Design		1.5
PHAR 543 Public Health for Pharmacists		2
PHAR 544 Direct Patient Care in Pharmacy Practice		3
PHAR 562 Professional Development II		1
PHAR 572 IPPE II		5
Total Semester Credit Hours UMES Year 1 – 60	30	30
UMES Year 2	Fall Credits	Spring Credits
PHAR 640 Pharmacy Administration II: Management	3	
PHAR 610 PTMM: Principles of Pharmacotherapy	2	
PHAR 614 PTMM: Pulmonology and Ophthalmology	2	
PHAR 611 PTMM: Fluids, Electrolytes and Nephrology	2	
PHAR 612 PTMM: Cardiology	5.5	
PHAR 630 Sterile Products	1.5	
PHAR 641 Practice of Drug Information and Literature Evaluation	2	
PHAR 622 PTMM: Endocrinology and Urology	3	
PHAR 661 Professional Development III	1	
PHAR 671 IPPE III	2	
PHAR 624 Integration of Pharmacy Practice I	2.5	
PHAR 650 Top 200 Drugs	1	

PHAR 609 Therapeutics of Self-Care and Over the Counter Products	2	
PHAR 619 PTMM: Neurology		3
PHAR 618 PTMM: Psychiatry		2.5
PHAR 615 PTMM: Gastroenterology		3
PHAR 613 PTMM: Immunology and Rheumatology		3
PHAR 616 PTMM: Infectious Disease I		3
PHAR 617 PTMM: Infectious Disease II		3
PHAR 620 PTMM: Hematology/Oncology		3
PHAR 660 Scientific Writing		1
PHAR 625 Integration of Pharmacy Practice II		2.5
PHAR 662 Professional Development IV		1
PHAR 672 IPPE IV		2
Elective courses*		6
Total Semester Credit Hours UMES Year 2 - 62.5	29.5	33
UMES Year 3	Summer/Fall/Spring Credits	
Required Advanced Practice Pharmacy Experiences (APPEs)		
PHAR 700 APPE-Advanced Community Practice		5
PHAR 701 APPE-Advanced Institutional Practice		5
PHAR 702 APPE- Acute Care		5
PHAR 703 APPE- Ambulatory Care		5
Elective APPEs (Select 4)*		20
APPE Patient Care Elective		
PHAR 711 APPE – Home Infusion		
PHAR 713 APPE – Emergency medicine		
PHAR 714 APPE – Hematology/Oncology		
PHAR 715 APPE – Patient Care		
APPE Systems Elective		
PHAR 704 APPE - Public Health		
PHAR 710 APPE - Drug Information		
PHAR 712 APPE – Management and Leadership		
PHAR 720 APPE – General Elective		
PHAR 799 Professional Seminar		2
Total Semester Credit Hours UMES Year 3 - 42.0		42
Program Total Credit Required Hours - 164.5		164.5

Abbreviations: IPPE – Introductory Pharmacy Practice Experience, PTMM-Pharmacotherapy and Medication Management, APPE – Advanced Pharmacy Practice Experience, SCH – Semester Credit Hours

*At least one elective must come from each category, patient care and systems

APPENDIX II:**Course Equivalency: UMES to FSU toward the Bachelor of Science Degree in Chemistry**

UMES Course	UMES Credits	FSU Course Equivalent	FSU Credits
Required courses (11 credits)			
PHAR 512 Metabolism of Carbohydrates, Lipids, and Amino Acids	4	CHEM 441/445 Physical Chemistry I Lecture/Lab	3/1
PHAR 542 Concepts in Diversity and Communication For The Pharmacist	3	CHEM 495 Internship in Chemistry	3
PHAR 561 Professional Development I	1	CHEM 492 Capstone Experience	1
PHAR 510 Fundamentals of Drug Action and Metabolism	3	CHEM 330 Medicinal Chemistry	3
Choose from the following (minimum of 12 credits for General Electives)			
PHAR 530 Pharmaceutics and Biopharmaceutics	4.5	General Elective	4.5
PHAR 501 Basics of Drug Information and Introduction to Pharmacy Profession	1.5	General Elective	1.5
PHAR 511 Genetic Controls of Cell Function, Cell Reproduction, and Protein Synthesis	2.5	General Elective	2.5
PHAR 523 Endocrine System: Pharmacology and Medicinal Chemistry	1.5	General Elective	1.5
PHAR 540 Pharmacy Administration I – Health Care Delivery	2	General Elective	2
PHAR 550 Pharmaceutical Calculations	2	General Elective	2
PHAR 571 IPPE I	5	General Elective	5