

DUAL DEGREE PROGRAM: MBBB (B.S.) AND PHARM D

Requirements

Biochemistry PharmD Dual Degree Option

Students choosing this option will obtain a Bachelor of Science in MBBB, with a concentration in Biochemistry from Towson and a Pharm.D. from University of Maryland. Students choosing this option will complete the same requirements as in the Biochemistry Concentration, but some course requirements will be satisfied by transferring approved courses from University of Maryland School of Pharmacy.

Students will complete 97-99 units at Towson University and will transfer 21-23 units from University of Maryland. Upon completion of the required courses in approximately 4 years (typically 3 years at Towson and 1 year at University of Maryland School of Pharmacy), students will earn a B.S. in MBBB-Biochemistry from Towson University.

After earning a B.S. from Towson University, students will continue the Pharmacy Curriculum at University of Maryland for additional 3 years (to complete the second, third and fourth year of PharmD Program). Upon completion of the required courses in these 3 additional years, students will earn a Doctor in Pharmacy Degree from University of Maryland.

To complete this option, students must apply and be admitted to the School of Pharmacy at University of Maryland. Students will typically apply to University of Maryland while completing their third year of studies at Towson University. Please see additional information about applying to Pharmacy School in the Pre-professional Programs Section (Prepharmacy Preparation) or contact the Prepharmacy Coordinator for additional information about applying to Pharmacy School (Dr. Ana Maria Soto, asoto@towson.edu).

Requirements for the Major in MBBB with the Biochemistry Concentration

Approved Course Substitutions

Select courses from each group to be replaced by the appropriate courses from University of Maryland School of Pharmacy (UMSOP). Courses from each group can be fulfilled by courses transferred from UMSOP but you must take the remaining courses in each group. Students transfer 21-23 units from UMSOP (the exact number depends on the courses chosen in group 1)

Code	Title	Units
Group 1: Select one course to be completed at Towson University and one course to be fulfilled by courses at UMSOP (Transfer one or both courses depending on number of units needed: PHAR 504 (3 units), PHAR 506 (3 units))		
CHEM 345	PRINCIPLES OF PHYSICAL CHEMISTRY	3
CHEM 220 & 220L	ANALYTICAL CHEMISTRY [LECTURE] and ANALYTICAL CHEMISTRY [LAB]	5
Group 2: Select one course to be completed at Towson University and one course to be fulfilled by courses at UMSOP (Transfer both PHAR 503 (3 units) and PHAR 525 (2 units))		
BIOL 409	MOLECULAR BIOLOGY	4
MBBB 301	INTRO TO BIOINFORMATICS	4

Group 3: All these courses can be fulfilled by Courses from UMSOP (Transfer six courses: PHAR 533 (or PHAR 539, 2 units), PHAR 5001 (3), PHAR 5002 (3), PHAR 510 (3), PHAR 505 (2), PHAR 518 (2))

MBBB 201	PROGRAMMING FOR BIOLOGISTS	4
PHYS 212	GENERAL PHYSICS II; NON CALCULUS-BASED	4
or PHYS 242	GENERAL PHYSICS II CALCULUS-BASED	
CHEM 372	PHYSICAL CHEMISTRY LABORATORY	2
CHEM 356	BIOCHEMISTRY LAB	2
CHEM 357	ADVANCED BIOCHEMISTRY	3

Required & Suggested Additional Courses

Students choosing the dual degree option need to choose specific courses for the Core categories and for MBBB electives listed below as they are required to apply to pharmacy school.

Code	Title	Units
Required Core Courses		
Core 5 (required for admission to pharmacy school):		3
COMM 131	PUBLIC SPEAKING	
Core 6 (required for admission to pharmacy school):		3
ECON 201	MICROECONOMIC PRINCIPLES	
or ECON 202	MACROECONOMIC PRINCIPLES	
Core 9 (recommended for pharmacy school):		3
ENGL 316	WRITING ABOUT LITERATURE	
or ENGL 310	WRITING ARGUMENT	
or ENGL 313	ACADEMIC ESSAY	
or ENGL 316	WRITING ABOUT LITERATURE	
or ENGL 317	WRITING FOR BUSINESS AND INDUSTRY	
or ENGL 318	TECHNICAL AND SCIENTIFIC WRITING	
Core 14 (required for MBBB; requires prerequisite PHIL course)		3
PHIL 361	BIOMEDICAL ETHICS	
Suggested Core Course (Choose one as prerequisite to PHIL 361)		
PHIL 204	RACE, CLASS AND GENDER (Core 13)	
PHIL 219	INTRODUCTION TO ASIAN PHILOSOPHY (Core 12)	
PHIL 290	TOPICS ON PHILOSOPHY OF THE CITY (Core 10)	
MBBB Research Elective (Research Course or UL Elective)		
BIOL 318	MICROBIOLOGY	4
Courses Required for Admission to Pharmacy School		
BIOL 221 & 221L	HUMAN ANATOMY & PHYSIOLOGY I [LECTURE] and HUMAN ANATOMY & PHYSIOLOGY I [LAB]	4
BIOL 222 & 222L	HUMAN ANATOMY & PHYSIOLOGY II [LECTURE] and HUMAN ANATOMY & PHYSIOLOGY II [LAB]	4

First Year Courses in PharmD Program at University of Maryland

Code Title Units

Approved Course Substitutions: Students transfer 23 to 26 units from UMSOP ¹

First Semester at UMSOP (Year 1 - Fall)

PHAR 505	Abilities Lab 1	2
PHAR 5000	General Patient Management	3
PHAR 503	Genomics and Proteomics	3
PHAR 506	Principles of Drug Action	3
PHAR 510	Biochemistry	3
PHAR 504	Physical & Pharmaceutical Chemistry	3
PHAR 5023	Professional Foundations of Pharmacy 1	1

Second Semester at UMSOP (Year 1 - Spring)

PHAR 518	Abilities Lab 2	2
PHAR 5001	Applied Science and Therapeutics 1:Respiratory, GI, Nutrition	3
PHAR 5002	Applied Science and Therapeutics 2: Hematology, Pain, Oncology	3
PHAR 525	Immunology	2
PHAR 533	Medicinal Chemistry 1	2
PHAR 539	Medicinal Chemistry 2	2
PHAR 5024	Professional Foundations of Pharmacy 2	1
PHAR 5009	Medical Evidence	2

¹ Number of units transferred back to TU from PharmD program depends on specific courses transferred, as detailed in the "Approved Course Substitutions" Table.