

BACHELOR OF SCIENCE IN PHARMACEUTICAL SCIENCES

Joint Degree: BSPS/MSPS with Albany College of Pharmacy and Health Sciences

Albany College of Pharmacy and Health Sciences *Combined Program*

BS in Pharmaceutical Sciences/MS in Pharmaceutical Sciences with Concentrations

Albany College of Pharmacy and Health Sciences' five-year combined Bachelor and Master Degree in Pharmaceutical Sciences provides a strong foundation in the pharmaceutical sciences. This is a research intensive program designed for students with a strong commitment to research. The BS/MS in Pharmaceutical Sciences program will enhance a student's ability to think critically and strengthen their credentials for admission to medical school, as well as dental, veterinary and other post-graduate professional programs. The BS/MS program will also position graduates for highly competitive entry-level jobs in the pharmaceutical and biotechnology industries or government regulatory agencies as well as for entrance into PhD programs in the basic and pharmaceutical sciences.

Overview:

The combined BS/MS in Pharmaceutical Sciences program reduces the total credit requirements of the two programs by 12 credit hours. Students must complete all course requirements except for the following:

- Foundations of Pharmaceutical Sciences (PSC 431) is not required in the BS/MS program and is replaced by Foundations of the Pharmaceutical Sciences (PSC 631) which covers essentially the same course material at a graduate level. This reduces the total credit hour requirement by 2 credit hours.
- The BS program requires students to take 21 credit hours of electives. The BS/MS program requires students to take 15 credit hours of Directed Electives and 10 credit hours of MS electives for a combined total of 25 credit hours. The BS/MS program thus increases the total elective requirement by 4 credit hours.
- The BS/MS in Pharmaceutical Sciences requires students to take several research focused undergraduate courses that are electives in the BSPS program, including three semesters of Pharmaceutical Sciences Research Experience as well as the required course Thesis I.
- Research Rotation is not required in the BS/MS program. The objectives of this initial research experience will be met by completing BSPS Independent Research or equivalent research experience at ACPHS. This reduces the total credit hour requirement by 2 credit hours.

Total Credit Hours for the Pharmacology Concentration:

BS in Pharmaceutical Sciences:	123 credit hours
MS in Pharmaceutical Sciences:	<u>33</u> credit hours
Total	156

BS/MS in Pharmaceutical Sciences combined program: 146 credits

Total Credit Hours for the Pharmaceutics Concentration:

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BS in Pharmaceutical Sciences:	125 credit hours
MS in Pharmaceutical Sciences:	<u>33</u> credit hours
Total	158

BS/MS in Pharmaceutical Sciences combined program: 149 credits

A summary of the credit hour requirements for the BS, MS completed separately, and as part of the combined programs, is shown below. Students benefit from a reduction in required course hours by an equivalent of 12 credit hours when completing the combined BS/MS.

Degree Program	BSPS Courses at ACPHS (credit hrs)	MSPS Courses at ACPHS (credit hrs)	Total Credit Hours
BSPS: Pharmacology + MSPS - Completed Separately	123	33	156
BSPS: Pharmacology/MSPS - Combined	115	31	146
BSPS: Pharmaceutics + MSPS – Completed Separately	125	33	158
BSPS: Pharmaceutics/MSPS - Combined	118	31	149

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Sample Curriculum: BS/MS in Pharmaceutical Sciences: *Pharmacology Concentration*

(An example of a typical curriculum layout)

Year 1					
Fall Semester		Credits	Spring Semester		Credits
BIO 101	General Biology I	4	BIO 102	General Biology II	4
CHE 101	General Chemistry I	4	CHE 102	General Chemistry II	4
PSC110	Scientific Reasoning and Analysis (SRA) 1	2	MAT 145	Elementary Statistics	3
HUM 110	The Pre-Modern World	3	HUM 120	The Modern World	3
COM 115	Principles of Communication	3	PSC111	SRA 2	2
Total Credit Hours		16	Total Credit Hours		16
Year 2					
Fall Semester		Credits	Spring Semester		Credits
CHE 211	Organic Chemistry I	4	CHE 221	Organic Chemistry II	4
PHY 212	College Physics I	4	PHY 222	College Physics II	4
HUM 210	The Contemporary World	3	PSC 112	SRA 3	2
MAT 121	Calculus I	4	PSC 210	Pharmaceutical Sciences Research Experience (PSRE)	3
	Directed Elective	3		Humanities Elective	3
Total Credit Hours		18	Total Credit Hours		16
Year 3					
Fall Semester		Credits	Spring Semester		Credits
PSC 311	Biochemistry	3	PSC3 12	Molecular Biology	3
PSC 321	Physiology / Pathophysiology I	4	PSC 322	Physiology / Pathophysiology II	4
TBD	Sociology/Psychology Selective	3		Humanities Elective	3
	Humanities Elective	3		Directed Elective	3
PSC 210	PSRE	3	PSC 210	PSRE	3
Total Credit Hours		16	Total Credit Hours		16
Year 4					
Fall Semester		Credits	Spring Semester		Credits
PSC 631	Foundations of Pharmaceutical Sciences	2	TBD	Neuropsychopharmacology	3
	Molecular Pharmacology	3	PSC 672	Ethics in Research	1
PSC 672	Experimental Design and Data Analysis	2	PSC 761	MS Thesis Research	2
TBD	Physiology/Pharmacology Selective	3	TBD	Physiology/Pharmacology Selective	3
PSC 761	MS Thesis Research	2	TBD	BSPS Pharmacology Elective	3
PSC410	Thesis I	3			
Total Credit Hours		15	Total Credit Hours		12
Year 5					
Fall Semester		Credits	Spring Semester		Credits
PSC 761	MS Thesis Research	3	PSC 761	MS Thesis Research	3
PSC 651	Pharmaceutical Sci Journal Club	1	PSC 651	Pharmaceutical Sci Journal Club	1
TBD	MS Elective	2	TBD	MS Elective	2
TBD	MS Elective	3	TBD	MS Elective	3
TBD	BS Directed Elective	3			
Total Credit Hours		12	Total Credit Hours		9

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Sample Curriculum: BS/MS in Pharmaceutical Sciences: *Pharmaceutics Concentration*

(An example of a typical curriculum layout)

Year 1					
Fall Semester		Credits	Spring Semester		Credits
BIO 101	General Biology I	4	BIO 102	General Biology II	4
CHE 101	General Chemistry I	4	CHE 102	General Chemistry II	4
HUM 110	The Pre-Modern World	3	MAT 145	Elementary Statistics	3
COM 115	Principles of Communication	3	HUM 120	The Modern World	3
PSC 110	Scientific Reasoning and Analysis (SRA) 1	2	PSC 111	SRA 2	2
Total Credit Hours		16	Total Credit Hours		16
Year 2					
Fall Semester		Credits	Spring Semester		Credits
CHE 211	Organic Chemistry I	4	CHE 221	Organic Chemistry II	4
PHY 212	College Physics I	4	PHY 222	College Physics II	4
HUM 210	The Contemporary World	3	MAT 211	Calculus II	3
MAT 121	Calculus I	4	PSC112	SRA 3	2
	Humanities Elective	3	PSC 210	Pharmaceutical Sciences Research Experience (PSRE)	3
Total Credit Hours		18	Total Credit Hours		16
Year 3					
Fall Semester		Credits	Spring Semester		Credits
PSC 311	Biochemistry	3	PSC3 12	Molecular Biology	3
PSC 321	Physiology / Pathophysiology I	4	PSC 322	Physiology / Pathophysiology II	4
TBD	Sociology/Psychology Selective	3	PSC 410	Thesis I	3
PSC 341	Pharmaceutics I	3	PSC 342	Pharmaceutics II	3
PSC 210	PSRE	3	PSC 210	PSRE	3
				Humanities Elective	3
Total Credit Hours		16	Total Credit Hours		19
Year 4					
Fall Semester		Credits	Spring Semester		Credits
PSC 631	Foundations of Pharmaceutical Sciences	2	PSC 642	Advanced Pharmaceutics II	3
PSC 641	Advanced Pharmaceutics I	3	PSC 671	Ethics in Research	1
PSC 672	Exp Design and Data Analysis	2	PSC 761	MS Thesis Research	2
PSC 441	Pharmacokinetics	3	TBD	Humanities Elective	3
PSC 761	MS Thesis Research	2	TBD	BS Directed Elective	3
	Pharmaceutics Selective	3	TBD	Pharmaceutics Selective	3
Total Credit Hours		15	Total Credit Hours		15
Year 5					
Fall Semester		Credits	Spring Semester		Credits
PSC 761	MS Thesis Research	3	PSC 761	MS Thesis Research	3
PSC 651	Pharmaceutical Sci Journal Club	1	PSC 651	Pharmaceutical Sci Journal Club	1
TBD	MS Elective	2	TBD	MS Elective	2
TBD	MS Elective	3	TBD	MS Elective	3
Total Credit Hours		9	Total Credit Hours		9