

Cleveland State University
College of Sciences and Health Professions
Bachelor of Science in Pharmaceutical Sciences
(Pharmaceutical Chemistry and Analysis Track)
- NEW FALL 2014 -

First Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
CHM 261/266 General Chemistry I/Lab	4	X	NS	CHM 262/267 General Chemistry II/Lab	4	X	NS
BIO 200/201 Introductory Biology I/Lab	4	X	NS	BIO 202/203 Introductory Biology II/Lab	4	X	NS
ENG 101 English I	3		W/C	ENG 102 English II	3		W/C
ASC 101 Introduction to University Life	1		INTRO	MTH 182 Calculus II	4	X	M/QL
MTH 181 Calculus I	4	X	M/QL				
Semester Total	16			Semester Total	15		

Second Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
CHM 331/336 Organic Chemistry I/Lab	5	X		CHM 332/337 Organic Chemistry II/Lab	5	X	
PHY 221 College Physics I	5	X	NS	PHY 222 College Physics II	5	X	NS
Social Science Elective*	3		SS	Arts & Humanities Elective*	3		A&H
BIO 266/267 Anatomy & Physiology I/Lab	4	X	NS	BIO 268/269 Anatomy & Physiology II/Lab	4	X	NS
Semester Total	17			Semester Total	17		

Third Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
CHM 341 Pharmacology I	3	X		CHM 342 Pharmacology II	3	X	
CHM 351 Medicinal Chemistry I	3	X		CHM 352 Medicinal Chemistry II	3	X	
CHM 402 Biochemistry I	3	X		CHM 412 Advanced Instrumental Analysis	3	X	
CHM 311/316 Quantitative Analysis/Lab	5	X		CHM 416 Instrumental Analysis Lab	3	X	WAC
CHM 411 Instrumental Analysis	3	X					
Semester Total	17			Semester Total	12		

Fourth Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
US Diversity Elective*	3		DIV	Arts & Humanities Elective (outside the US/ALAAME)*	3		A&H
CHM 457 Pharmaceutical Analysis Lab	3	X	CAP	CHM 455 Biotechnology Techniques	3	X	
CHM Elective (300/400 level)	3	X		African American Experience Elective*	3		DIV
Social Science (outside the US/ALAAME)*	3		SS	CHM 403 Biochemistry II	3	X	
				Writing Across the Curriculum Elective	3		WAC
Semester Total	12			Semester Total	15		
Apply for Spring graduation prior to Sep 9th							
Degree Total (as listed in above sample): 121 (120 hours minimum required to earn degree)							

Assumptions: college-level readiness in MTH & ENG; no Foreign Language Deficiency

College/ Program Notes:

The plan above is a suggested guide to ensure that all General Education, College, University, and Major requirements are met within 4 years of study. Students may deviate from the suggested placement of Gen Ed courses, although the M/QL and W/C requirements should be completed during the first year of study.

*ONE of these Gen Ed electives must also double-count as WAC courses in order to avoid having to add additional courses to what is listed above. In addition, students must accumulate the minimum credit hour totals needed for graduation. Students must have a **minimum of 120 total credit hours**, of which a **minimum of 42 credit hours** must be upper division (300 or 400-level courses). Depending upon other elective choices made, students may need additional electives.

University Notes:

Gen Ed Key:	SS = Social Sciences (two courses, one of which must be focused outside the US**)
INTRO = Introduction to University Life (one course)	A&H = Arts & Humanities (two courses, one must be focused outside the US**)
W/C = Writing/Composition (two courses; C or better required)	DIV = Social Diversity (two courses; one US Diversity and one African American Experience)
M/QL = Mathematics/Quantitative Literacy (two courses)	WAC/SPAC = Writing/Speaking Across the Curriculum (three courses, one in the major; C or better required)
NS = Natural Sciences (two courses, one of which must have a lab)	CAP = Capstone
	** of the SS and A&H courses focused outside the US, one must be focused on Africa, Latin America, Asia or the Middle East (ALAAME)

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Cleveland State University
College of Sciences and Health Professions
Bachelor of Science in Pharmaceutical Sciences
(Medicinal and Biological Chemistry Track)
- NEW FALL 2014 -

First Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
CHM 261/266 General Chemistry I/Lab	4	X	NS	CHM 262/267 General Chemistry II/Lab	4	X	NS
BIO 200/201 Introductory Biology I/Lab	4	X	NS	BIO 202/203 Introductory Biology II/Lab	4	X	NS
ENG 101 English I	3		W/C	ENG 102 English II	3		W/C
ASC 101 Introduction to University Life	1		INTRO	MTH 182 Calculus II	4	X	M/QL
MTH 181 Calculus I	4	X	M/QL				
Semester Total	16			Semester Total	15		

Second Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
CHM 331/336 Organic Chemistry I/Lab	5	X		CHM 332/337 Organic Chemistry II/Lab	5	X	
BIO 266/267 Anatomy & Physiology I/Lab	4	X	NS	Arts & Humanities Elective	3		A&H
PHY 221 College Physics I	5	X	NS	PHY 222 College Physics II	5	X	NS
				BIO 268/269 Anatomy & Physiology II/Lab	4	X	NS
Semester Total	14			Semester Total	17		

Third Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
CHM 341 Pharmacology I	3	X		CHM 342 Pharmacology II	3	X	
CHM 351 Medicinal Chemistry I	3	X		CHM 352 Medicinal Chemistry II	3	X	
CHM 402 Biochemistry I	3	X		BIO 310/311 Genetics and Recitation	4	X	
CHM 310 Survey of Analytical Chemistry	2	X		CHM 403 Biochemistry II	3	X	
CHM 315 Survey of Analytical Chemistry Lab	2	X		Writing Across the Curriculum Elective	3		WAC
US Diversity Elective	3		DIV				
Semester Total	16			Semester Total	16		

Fourth Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
CHM Elective (300/400 level) - Writing Course	3	X	WAC	Writing Across the Curriculum Elective	3		WAC
CHM 457 Pharmaceutical Analysis Lab	3	X	CAP	CHM 455 Biotechnology Techniques	3	X	
CHM/BIO Elective (300/400 level)	3	X		Social Science Elective	3		SS
Social Science (outside the US/ALAAME)	3		SS	Arts & Humanities Elective (outside the US/ALAAME)	3		A&H
African American Experience Elective	3		DIV				
Apply for Spring graduation prior to Sep 9th							
Semester Total	15			Semester Total	12		
Degree Total (as listed in above sample): 121 (120 hours minimum required to earn degree)							

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*Electives ensure that a student accumulates the minimum credit hour totals needed for graduation. Students must have a **minimum of 120 total credit hours**, of which a **minimum of 42 credit hours** must be upper division (300 or 400-level courses). Depending upon other elective choices made, students may not need as many general electives as indicated above, or may need additional electives.

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