

**Bachelor of Science in Chemistry
Biochemistry Concentration
Transfer Curriculum Planning Guide and Baccalaureate Degree Plan
Fayetteville State University
(2021-2022)**

University College Core Curriculum (39 Credits)	Course Number ¹	Cr.	FSU Equivalent
Transitional Studies – University Studies (2 Credits) <i>Select one option from (UNIV 101/102) or UNIV 110 or UNIV 111 or UNIV 112</i>	ACA 122 (1 cr.)	2	Waived with 30 credit hours ²
Transitional Studies – Life Skills (2 Credits) <i>Select two credits from the following: ENTR 100 or FINC 100 or GEOG 110 or HEED 112 or HEED 113 or PEDU 101 or PEDU 107 or PEDU 112 or PEDU 120 or PEDU 122 or PEDU 130 or PEDU 132 or PEDU 140</i>	HEA 110 or any PED course	2	Waived with AA/AS, NOT with AAS/AGE ^{2,3}
Communication Skills – Written Communication (3 Credits) – ENGL 110	ENG 111	3	ENG 110
Information Literacy (3 Credits) – ENGL 120	ENG 112	3	ENG 120
Communication Skills – Oral Communication (3 Credits) BADM 215 SPEE 200	COM 120 or COM 231	3	BADM 215 or SPEE 200
Reasoning Skills – Critical Thinking (3 Credits) <i>Select one from the following: PHIL 110 or PHIL 220</i>	HUM 115	3	Waived with 60 credit hours ²
Reasoning Skills – Quantitative Reasoning (3 Credits) <i>Select one from the following: MATH 130 or MATH 131</i>	MAT 172	3	MATH 130 or MATH 131
Scientific Literacy – Natural Sciences (8 Credits)⁴ <i>Select from the following: CHEM 141/141L and CHEM 161/161L</i>	CHM 151	4	CHEM 141/141L
	CHM 152	4	CHEM 161/161L
Scientific Literacy – Social Sciences (3 Credits) <i>CRJC 210 or ECON 211 or ECON 212 or GEOG 210 or HIST 212 or HIST 271 or POLI 200 or POLI 210 or POLI 220 or POLI 270 or PSYC 210 or SOCI 210</i>	SOC 210 preferred	3	
Humanities and Creative Arts (3 Credits) <i>Select one from the following: ART 210 or COMM 220 or ENGL 220 or ENGL 223 or ENGL 240 or ENGL 250 or ENGL 253 or HIST 210 or HUMN 211 or HUMN 212 or MUSI 210 or MUSI 225 or MUSI 260 or PHIL 210 or RELI 215 or THEA 203</i>	Hum/Fine Arts elective	3	
Global Literacy (3 Credits)⁵ <i>Select one from the following: ANTH 210 or ART 150 or ART 215 or BADM 210 or CHIN 110 or CHIN 120 or ENGL 211 or ENGL 212 or FREN 110 or FREN 120 or GEOG 220 or HIST 110 or HIST 120 or HIST 270 or PHIL 211 or POLI 230 or SOCI 150 or SPAN 110 or SPAN 112 or SPAN 120 or SPAN 122 or SPAN 211 or THEA 242 or YORU 110 or YORU 120</i>		3	Waived with AA/AS, NOT with AAS/AGE ²
Ethics and Civic Engagement (3 Credits) <i>Select three credits from the following: BADM 220 or CRJC 203 or EDUC 211 or ENEC 210 or ENGL 232 or ENGL 233 or (ETCE 101/102/103) or ETCE 200 or GEOG 270 or HCM 200 or HIST 211 or PHIL 120 or PHIL 212 or PHIL 250 or PNUR 210 or POLI 150 or SPTM 210 or SWRK 220</i>		3	Waived with 60 credit hours ²

Notes

- 1 Courses are for the North Carolina Community College (NCCC) system. Other courses may satisfy requirement.
- 2 Students do not earn credit if any requirement is waived. All students must earn at least 120 credits to graduate.
- 3 NCCC Associate in Arts (AA), Associate in Science (AS), Associate in Applied Science (AAS), Associate in General Education (AGE). Per NC Comprehensive Articulation Agreement, NCCC graduates with AA or AS have completed FSU general education requirements. NCCC general education courses not used for core may be applied to free electives or used to reach 120 credits. AAS, AFA, and other specific degrees may be governed by articulation agreements.
- 4 At least one Natural Science class must include a lab.
- 5 Not required for students with 30 or more transfer credits from a foreign institution. Students do not earn credit if requirement is waived.

Chemistry Program Requirements (81 Credits)	Course Number	Cr.	FSU Equivalent
Chemistry Courses (27 Credits): BICH 411 and CHEM 200 and (CHEM 211 and CHEM 211L) and (CHEM 223 and CHEM 223L) and (CHEM 225 and CHEM 225L) and (CHEM 311 and CHEM 311L) and CHEM 315 and CHEM 499		3	BICH 411
		1	CHEM 200
	CHM 263	4	CHEM 211/211L
	CHM 251	4	CHEM 223/223L
	CHM 252	4	CHEM 225/225L
		5	CHEM 311/311L
		3	CHEM 315
		3	CHEM 499
Correlative Requirements (21 Credits) NSCI 100 and (BIOL 150 and BIOL 150L) and MATH 142 and MATH 241 and MATH 242 and PHYS 125 and PHYS 125L and PHYS 126 and PHYS 126L		1	NSCI 100
	BIOL 111	4	BIOL 150/150L
	MAT 271	4	MATH 142
	MAT 272	4	MATH 241
	PHY 251	4	PHYS 125/125L
	PHY 252	4	PHYS 126/126L
Concentration: (27 Credits) BICH 412 and BICH 413 and BICH 421 and (BIOL 200 and BIOL 200L) and BIOL 230 and BIOL 240 and BIOL 310 and (BIOL 330 and BIOL 330L) and BTCH 310		3	BICH 412
		3	BICH 413
		1	BICH 421
		4	BIOL 200/200L
	BIO 168	3	BIOL 230
	BIO 169	3	BIOL 240
	BIO 250	3	BIOL 310
	BIO 275	4	BIOL 330/330L
		3	BTCH 310
Biochemistry Electives (6 Credits) Select two from the following: CHEM 422 or CHEM 424 or CHEM 425 or CHEM 426		3	
		3	
Waived Core Requirements The credits in this area increase as requirements are waived without credit in the university core – typically 7 credits to equal 120 credits overall; add extra lines as needed.			
Total Credits		120	
Transfer Credits			

Baccalaureate Degree Plan (A.A.)

This Plan illustrates how students from North Carolina community colleges can meet degree course requirements in four years. Courses and requirements in Year 1 and Year 2 are from the NC community college catalog. Courses and requirements in Year 3 and Year 4 are from the FSU catalog. Some courses listed below may be taken in an alternate order. Courses fulfilling requirements are listed on the previous pages. For information about prerequisites and other program requirements, consult the appropriate Catalog Program of Study and an advisor. Students should work with advisor to create and update an individual plan.

Year 1 Fall		
Requirement	Course	Cr
Academic Transition	ACA 122	1
English Composition	ENG 111	3
Humanities/Fine Arts		3
Social/Behavioral Sciences	SOC 210	3
Math	MAT 171	4
Total:		14

Year 1 Spring		
Requirement	Course	Cr
Communications	COM 120 or COM 231	3
English Composition	ENG 112	3
Natural Sciences	CHM 151	4
Social/Behavioral Sciences		3
Additional General Education	MAT 172	4
Total:		17

Year 2 Fall		
Requirement	Course	Cr
Social/Behavioral Sciences		3
Additional General Education	MATH 271	4
Additional General Education	BIO 111	4
Pre-Major/Elective	CHM 152	4
Total:		15

Year 2 Spring		
Requirement	Course	Cr
Humanities/Fine Arts		3
Pre-Major/Elective	MAT 272	4
Pre-Major/Elective	CHM 251	4
Pre-Major/Elective	PHY 251	4
Total:		15

Year 3 Fall		
Requirement	Course	Cr
Cell Biology Lecture	BIOL 200	3
Cell Biology Laboratory	BIOL 200L	1
Human Anatomy and Physiology I	BIOL 230	3
Chemical Literature: Search & Analysis	CHEM 200	1
Analytical Chemistry Lecture	CHEM 211	3
Analytical Chemistry Lab	CHEM 211L	1
Organic Chemistry II Lecture	CHEM 225	3
Organic Chemistry II Lab	CHEM 225L	1
Total:		16

Year 3 Spring		
Requirement	Course	Cr
Biochemistry I	BICH 411	3
Human Anatomy and Physiology II	BIOL 240	3
Instrumental Analysis Lecture	CHEM 311	3
Instrumental Analysis Lab	CHEM 311L	2
College Physics II Lecture	PHYS 126	3
College Physics II Lab	PHYS 126L	1
Total:		15

Year 4 Fall		
Requirement	Course	Cr
Microbiology & Immunology	BIOL 330	3
Microbiology & Immunology Laboratory	BIOL 330L	1
Biochemistry II	BICH 412	3
Biochemistry Laboratory	BICH 421	1
Physical Chemistry for Life Sciences	CHEM 315	3
Biochemistry Elective		3
Total:		14

Year 4 Spring		
Requirement	Course	Cr
Principles of Genetics	BIOL 310	3
Biochemistry III	BICH 413	3
Immunology	BTCH 310	3
Chemistry Capstone	CHEM 499	3
Biochemistry Elective		3
Total:		15

Notes

* Indicates a course recommended by the program. Other courses listed under the requirement may be used.

Baccalaureate Degree Plan (A.S.)

This Plan illustrates how students from North Carolina community colleges can meet degree course requirements in four years. Courses and requirements in Year 1 and Year 2 are from the NC community college catalog. Courses and requirements in Year 3 and Year 4 are from the FSU catalog. Some courses listed below may be taken in an alternate order. Courses fulfilling requirements are listed on the previous pages. For information about prerequisites and other program requirements, consult the appropriate Catalog Program of Study and an advisor. Students should work with advisor to create and update an individual plan.

Year 1 Fall		
Requirement	Course	Cr
Academic Transition	ACA 122	1
English Composition	ENG 111	3
Precalculus Algebra	MAT 171	4
Natural Sciences	BIO 111	4
Communication/Humanities/Fine Arts		3
Total:		15

Year 1 Spring		
Requirement	Course	Cr
English Composition	ENG 112	3
Math	MAT 172	4
Natural Sciences	CHM 151	4
Social/Behavioral Sciences		3
Humanities/Fine Arts		3
Total:		17

Year 2 Fall		
Requirement	Course	Cr
Communication/Humanities/Fine Arts		3
Additional General Education	MAT 271	4
Additional General Education		3
Pre-Major/Elective	CHM 152	4
Total:		14

Year 2 Spring		
Requirement	Course	Cr
Social/Behavioral Sciences		3
Additional General Education	MAT 272	4
Pre-Major/Elective	CHM 251	4
Pre-Major/Elective	PHY 251	4
Total:		15

Year 3 Fall		
Requirement	Course	Cr
Cell Biology	BIOL 200	3
Cell Biology Laboratory	BIOL 200L	1
Human Anatomy and Physiology I	BIOL 230	3
Chemical Literature: Search & Analysis	CHEM 200	1
Analytical Chemistry Lecture	CHEM 211	3
Analytical Chemistry Lab	CHEM 211L	1
Organic Chemistry II Lecture	CHEM 225	3
Organic Chemistry II Lab	CHEM 225L	1
Total:		16

Year 3 Spring		
Requirement	Course	Cr
Biochemistry I	BICH 411	3
Human Anatomy and Physiology II	BIOL 240	3
Instrumental Analysis Lecture	CHEM 311	3
Instrumental Analysis Lab	CHEM 311L	2
College Physics II Lecture	PHYS 126	3
College Physics II Lab	PHYS 126L	1
Total:		15

Year 4 Fall		
Requirement	Course	Cr
Microbiology & Immunology	BIOL 330	3
Microbiology & Immunology Laboratory	BIOL 330L	1
Biochemistry II	BICH 412	3
Biochemistry Laboratory	BICH 421	1
Physical Chemistry for Life Sciences	CHEM 315	3
Biochemistry Elective		3
Total:		14

Year 4 Spring		
Requirement	Course	Cr
Principles of Genetics	BIOL 310	3
Biochemistry III	BICH 413	3
Immunology	BTCH 310	3
Chemistry Capstone	CHEM 499	3
Biochemistry Elective		3
Total:		15

Notes

* Indicates a course recommended by the program. Other courses listed under the requirement may be used.