

Course Requirements Checklist for Chemistry Major, Biochemistry Emphasis (ACS Certified)						
<input checked="" type="checkbox"/>	Course #	Course Name	Credits	Prerequisites	Co-requisites	Offered
Foundational Studies Requirements						
	ENGL 101	Introduction to College Writing	3	Satisfactory placement score		F/S
	ENGL 102	Intro to College Writing & Research	3	ENGL 101 or satisfactory score		F/S
	UF 100	Intellectual Foundations	3			F/S
	UF 200	Civic and Ethical Foundations	3			F/S
	DLN	Natural and Physical Sciences	- #			
	DLV	Visual and Performing Arts	3			
	DLL	Literature and Humanities	3-4			
	DLS	Social Sciences (from two different fields)	6			
	DLM	Mathematics	- #			
Subtotal from Foundational Requirements			24-25	# Necessary DLN credits (7-8) and DLM credits (3-5) are satisfied with required courses below		
Mathematics Course Requirements						
	MATH 170	Calculus I (DLM)	4	MATH 143 and 144 or a satisfactory placement score		F/S
	MATH 175	Calculus II	4	MATH 170		F/S
	MATH 275	Multivariable and Vector Calculus	4	MATH 175		F/S
Subtotal from Math Requirements			12			
Physics Course Requirements						
	PHYS 211	Physics I with Calculus (DLN)	4	MATH 144	PHYS 211L, MATH 170	F/S
	PHYS 211L	Physics I with Calculus Laboratory (DLN)	1		PHYS 211	F/S
	PHYS 212	Physics II with Calculus	4	PHYS 211, MATH 170	PHYS 212 L, MATH 175	F/S
	PHYS 212L	Physics II with Calculus Laboratory	1		PHYS 212	F/S
Subtotal from Physics Requirements			10			
Biology Course Requirements						
	BIOL 191	General Biology I and Laboratory	4	MATH 143		F/S
	BIOL 320	Cell Biology	3	BIOL 191 & CHEM 301 or CHEM 307 (others: see catalog)		F/S
	BIOL 310	Genetics	3	BIOL 320	CHEM 301 or 307 (pre/co-requisite)	F/S
Subtotal from Biology Requirements			10			
Chemistry Course Requirements						
	CHEM 111	General Chemistry I * (DLN)	3	MATH 143 or a satisfactory placement score	CHEM 111L	F/S
	CHEM 111L	General Chemistry I Laboratory (DLN)	1		CHEM 111	F/S
	CHEM 112	General Chemistry II	3	CHEM 111 & 111 L	CHEM 112L	F/S
	CHEM 112L	General Chemistry II Laboratory	1		CHEM 112	F/S
	CHEM 211	Analytical Chemistry I	3	CHEM 112 & 112L, MATH 143 and 144		F/S
	CHEM 212	Analytical Chemistry I Laboratory	2		CHEM 211	F/S
	CHEM 307	Organic Chemistry I	3	CHEM 111, 112, 112L	CHEM 308	F/S
	CHEM 308	Organic Chemistry I Laboratory	2		CHEM 307	F/S
	CHEM 309	Organic Chemistry II	3	CHEM 307	CHEM 310	F/S
	CHEM 310	Organic Chemistry II Laboratory	2	CHEM 308	CHEM 309	F/S
	CHEM 321	Physical Chemistry I	3	CHEM 309, MATH 275, PHYS 212, 212L		Fall
	CHEM 322	Physical Chemistry II	3	CHEM 321		Spring
	CHEM 323	Advanced Synthesis Laboratory (CID)	3	CHEM 211, 212, CHEM 310, CHEM 321	CHEM 321 (pre/co-requisite)	F/S
	CHEM 324	Physical Chemistry Laboratory	2	CHEM 211, 212, CHEM 310	CHEM 322 (pre/co-requisite)	F/S
	CHEM 401	Advanced Inorganic Chemistry	3	CHEM 322		Fall
	CHEM 411	Analytical Chemistry II	3	CHEM 212 & CHEM 322		Fall
	CHEM 431	Biochemistry I	3	CHEM 309 & MATH 170		Fall
	CHEM 432	Biochemistry Laboratory	2	CHEM 431		F/S
	CHEM 433	Biochemistry II	3	CHEM 431		Spring
	CHEM 495	Research in Chemistry (1 yr recommended)	min of 2	CHEM 309		F/S
	CHEM 498	Seminar (FF)	2	Senior Chemistry Major		F/S
Subtotal from Chemistry Requirements			52			
	Electives to total 120 credits		11-12			
Total Credits			120			

* Either one year of high school chemistry or an introductory chemistry course is recommended before taking CHEM 111.

Suggested Schedule of Courses for the *Biochemistry Emphasis, ACS Certified* for Degree Completion in Four Years*:

Fall Semester Year 1

Number	Course	credits
CHEM 111/111L	General Chemistry I General Chemistry I Laboratory	3 1
ENGL 101	Intro to College Writing	3
MATH 170	Calculus I	4
UF 100	Intellectual Foundations	3
Total credits		14

Spring Semester Year 1

Number	Course	credits
CHEM 112/112L	General Chemistry II General Chemistry II Laboratory	3 1
ENGL 102	Intro to College Writing and Research	3
PHYS 211/211L	Physics I Physics I Laboratory	4 1
MATH 175	Calculus II	4
Total credits		16

Fall Semester Year 2

Number	Course	credits
CHEM 307/308	Organic Chemistry I Organic Chemistry I Laboratory	3 2
PHYS 212/212L	Physics II Physics II Laboratory	4 1
MATH 275	Multivariable & Vector Calculus	4
Total credits		14

Spring Semester Year 2

Number	Course	credits
CHEM 309/310	Organic Chemistry II Organic Chemistry II Lab	3 2
CHEM 211/212	Analytical Chemistry I Analytical Chemistry I Laboratory	3 2
UF 200	Civic and Ethical Foundations	3
	Foundations/Elective Courses	3
Total credits		16

Fall Semester Year 3

Number	Course	credits
CHEM 321	Physical Chemistry I	3
CHEM 323	Advanced Synthesis Laboratory	3
CHEM 431	Biochemistry I	3
CHEM 495	Research in Chemistry	1
BIOL 191	General Biology I & Laboratory	4
Total credits		14

Spring Semester Year 3

Number	Course	credits
CHEM 322	Physical Chemistry II	3
CHEM 324	Physical Chemistry Laboratory	2
CHEM 433	Biochemistry II	3
BIOL 320	Cell Biology	3
CHEM 495	Research in Chemistry	1
	Foundations/Elective Courses	3
Total credits		15

Fall Semester Year 4

Number	Course	credits
CHEM 401	Advanced Inorganic Chemistry	3
CHEM 411	Analytical Chemistry II	3
CHEM 432	Biochemistry Laboratory	2
CHEM 495	Research in Chemistry	1
	Foundations/Elective Courses	6
Total credits		15

Spring Semester Year 4

Number	Course	credits
BIOL 310	Genetics	3
CHEM 498	Seminar	2
	Foundations/Elective Courses	11
Total credits		16

*This suggested schedule is only a guideline, and assumes a math background sufficient to allow a student to enroll in CHEM 111 the Fall Semester of Year 1.

Recommended electives are CHEM 440 (Spectrometric Identification), other upper-division chemistry, advanced topics in chemistry, upper-division mathematics, upper-division physics, foreign language, and life science courses. Chem 286 or 386, Directed Reading, is a good option as a 1-credit elective course. These are both seminar audience courses, where chemistry seniors and Masters students will present research seminars, along with some interesting guest speakers.