BIOCHEMISTRY MAJOR

The Biochemistry major is offered through the Department of Chemistry and Biochemistry. This option is recommended for students planning entry into graduate school in Biochemistry, Pharmacology, or related subjects. It is also strongly recommended for those desiring to pursue medical or dental school. *Ten (10) lecture courses and seven (7) laboratory courses in the content area (chemistry and /or biochemistry) are required for graduation.*

FIRST YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
General Chemistry I for Majors (CHE111)	3	General Chemistry II for Majors (CHE112)	3
General Chemistry I Lab for Majors/Recitation (CHE111L)	1	General Chemistry II Lab for Majors/Recitation (CHE112L)	1
Pre-Calculus (MAT116 or MAT120)	3-4	Calculus I (MAT231)	4
First Year Composition (ENG103)	4	Foreign Language (FL201)	4
African Diaspora/World I (ADW111)	4	African Diaspora/World II (ADW112)	4
First Year Experience (FYE 101)	1	First Year Experience (FYE 102)	1
First Year Seminar in Chemistry (CHE101)	0	Big Questions Colloquia (BQC100)	1
TOTAL HOURS	***16-17***	***TOTAL HOURS***	***18***
SOPHOMORE YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
Organic Chemistry I for Majors (CHE231)	4	Organic Chemistry II for Majors (CHE232)	4
Organic Chemistry I Lab/Recitation (CHE233L)	1	Organic Chemistry II Lab/Recitation (CHE234L)	1
Biology of the Cell (BIO120)	4	Organismal Form and Function(BIO115)	4
Calculus II (MAT232)	4	Physics I: Mechanics & Lab (PHY151)	4
Foreign Language (FL202)	4	Wellness & Health	0-1
Sophomore Seminar-Chemistry (SYE103)	1	Sophomore Year Experience-Chemistry (SYE104)	1
TOTAL HOURS	***18***	***TOTAL HOURS***	***14-15***
JUNIOR YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
Biochemistry I (CHE311)	4	Biochemistry II (CHE312)	3
Wellness & Health	0-1	Physical Chemistry II (CHE346)	3
Physical Chemistry I (CHE345)	3	Physical Chemistry II Lab (CHE346L)	1
Physics II Elec/Mag & Lab (PHY241)	4	Divisional Requirement 2	4
Divisional Requirement 1	4	Computer Science I - C++ (CIS121)[5]	4
		Biochemistry Lab (CHE313L)	1
TOTAL HOURS	***15-16***	***TOTAL HOURS***	***16***
SENIOR YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
Analytical Chemistry (CHE301)[1]	3	*Instrumental Analysis (CHE496)*[1]	4
Analytical Chemistry Lab (CHE301L)[1]	*1*	Women's or International Studies	4
Advanced Biochemistry (CHE446)[4]	3	Math[2] or Biology Elective[3]	4
Undergraduate Research (CHE431)	1-3	Undergraduate Research (CHE432)	1-3
Divisional Requirement 3	4	Elective[6]	3-4
Senior Seminar in Chemistry (CHE429)	1		
TOTAL HOURS	***13-15***	***TOTAL HOURS***	***16-19***

[1] Can take either Analytical Chemistry Lecture and Lab (CHE 301 and 301L) or Instrumental Analysis (CHE 496)
[2] Math Electives include: Calculus III, Biostatistics, Linear Algebra or Differential Equations
[3] Biology Electives include: Cellular & Molecular Biology, Genetics, Microbiology, Physiology, or other advanced or graduate level course
[4] Can substitute with Race and Genetics (CHE 405)
[5] Other CIS options include CIS 111, 115
[6] Chemistry or Biochemistry elective recommended

REVIEWED SUMMER 2019

CHEMISTRY MAJOR

This option is recommended for those students seeking entry into graduate school in Chemistry and related fields. *Ten (10) lecture courses and seven (7) laboratory courses in the content area (chemistry/biochemistry) are required for graduation*

FIRST YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
General Chemistry I for Majors (CHE111)	3	General Chemistry II for Majors (CHE112)	3
General Chemistry I Lab for Majors/Recitation (CHE111L)	1	General Chemistry II Lab for Majors/Recitation (CHE112L)	1
Pre-Calculus (MAT116 or MAT120)	3-4	Calculus I (MAT231)	4
First Year Composition (ENG103)	4	Foreign Language (FL201)	4
African Diaspora/World I (ADW111)	4	African Diaspora/World II (ADW112)	4
First Year Experience (FYE 101)	1	First Year Experience (FYE102)	1
First Year Seminar in Chemistry (CHE101)	0	Big Questions Colloquia (BQC100)	1
TOTAL HOURS	***16-17***	***TOTAL HOURS***	***18***
SOPHOMORE YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
Organic Chemistry I for Majors (CHE231)	4	Organic Chemistry II for Majors (CHE232)	4
Organic Chemistry I Lab/Recitation (CHE233L)	1	Organic Chemistry II Lab/Recitation (CHE234L)	1
Physics I: Mechanics & Lab (PHY151)	4	Physics II: Elec/Mag & Lab (PHY241)	4
Calculus II (MAT 232)	4	Computer Science I – C++ (CIS121)[2]	4
Foreign Language (FL202)	4	Wellness & Health	1
Sophomore Seminar-Chemistry (SYE103)	1	Sophomore Seminar-Chemistry (SYE104)	1
TOTAL HOURS	***18***	***TOTAL HOURS***	***15***
JUNIOR YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
Physical Chemistry I (CHE345)	3	Physical Chemistry II (CHE346)	3
Analytical Chemistry (CHE301)	3	Physical Chemistry II Lab (CHE346L)	1
Analytical Chemistry Lab (CHE301L)	1	Instrumental Analysis (CHE496)	4
Differential Equations (MAT365)[1]	4	Divisional Requirement 2	4
Divisional Requirement 1	4	Wellness & Health	1
TOTAL HOURS	***15***	***TOTAL HOURS***	***13***
SENIOR YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
Inorganic Chemistry (CHE421)	3	Biochemical Principles (CHE 410)	3
Inorganic Chemistry Lab (CHE421L)	1	Elective	4
Women's or International Studies	4	Divisional Requirement 3	4
Chemistry Elective	4	Senior Seminar in Chemistry (CHE429)	1
Undergraduate Research (CHE431)[3]	1-3		
TOTAL HOURS	***13-15***	***TOTAL HOURS***	***12***

[1] Course strongly recommended
[2] Other CIS options CIS 111, 115
[3] Course strongly recommended

REVIEWED SUMMER 2019

CHEMISTRY MAJOR-*ACS Certification*

This option is approved by the American Chemical Society (ACS) and recommended for those students seeking entry into graduate school in Chemistry and related fields. *Ten (10) lecture courses and seven (7) laboratory courses in the content area (chemistry and/or biochemistry) are required for graduation. However, this option requires an additional advanced chemistry elective to be taken beyond the 10 lecture courses required for graduation.*

FIRST YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
General Chemistry I for Majors (CHE111)	3	General Chemistry II for Majors (CHE112)	3
General Chemistry I Lab for Majors/Recitation (CHE111L)	1	General Chemistry II Lab for Majors/Recitation (CHE112L)	1
Pre-Calculus (MAT116 or MAT120)	3-4	Calculus I (MAT231)	4
First Year Composition (ENG103)	4	Foreign Language (FL201)	4
African Diaspora/World I (ADW111)	4	African Diaspora/World II (ADW112)	4
First Year Experience (FYE 101)	1	First Year Experience (FYE102)	1
First Year Seminar in Chemistry (CHE101)	0	Big Questions Colloquia (BQC100)	1
TOTAL HOURS	***16-17***	***TOTAL HOURS***	***18***
SOPHOMORE YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
Organic Chemistry I for Majors (CHE231)	4	Organic Chemistry II for Majors (CHE232)	4
Organic Chemistry I Lab/Recitation (CHE233L)	1	Organic Chemistry II Lab/Recitation (CHE234L)	1
Physics I: Mechanics & Lab (PHY151)	4	Physics II: Elec/Mag & Lab (PHY241)	4
Calculus II (MAT 232)	4	Computer Science I – C++ (CIS121)[2]	4
Foreign Language (FL202)	4	Wellness & Health	0-1
Sophomore Seminar-Chemistry (SYE103)	1	Sophomore Seminar-Chemistry (SYE104)	1
TOTAL HOURS	***18***	***TOTAL HOURS***	***14-15***
JUNIOR YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
Physical Chemistry I (CHE345)	3	Physical Chemistry II (CHE346)	3
Analytical Chemistry (CHE301)	3	Physical Chemistry II Lab (CHE346L)	1
Analytical Chemistry Lab (CHE301L)	1	Instrumental Analysis (CHE496)	4
Differential Equations (MAT365)[1]	4	Elective	3-4
Divisional Requirement 1	4	Divisional Requirement 2	4
Wellness & Health	0-1		
TOTAL HOURS	***15-16***	***TOTAL HOURS***	***15-16***
SENIOR YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
Inorganic Chemistry (CHE421)	3	Biochemical Principles (CHE 410)	3
Inorganic Chemistry Lab (CHE421L)	1	Adv. Chem. Elective	3-4
Undergraduate Research (CHE431)	3	Divisional Requirement 3	4
Women's or International Studies	4	Undergraduate Research (CHE432)	3
Elective	3-4	Senior Seminar in Chemistry (CHE429)	1
TOTAL HOURS	***14-15***	***TOTAL HOURS***	***14-15***

[1] Course strongly recommended
[2] Other CIS options CIS 111, 115

REVIEWED SUMMER 2019

CHEMISTRY DUAL DEGREE MAJOR

This option is recommended for those desiring to transition into a partner institution to complete a degree in Chemical Engineering. *Ten (10) lecture courses and seven (7) laboratory courses in the content area (chemistry and/or biochemistry) are required for graduation. Eight (8) of the required ten (10) Chemistry content courses are listed in this sequence; the remaining two required Chemistry courses will be taken at the engineering institution upon approval.*

FIRST YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
General Chemistry I for Majors (CHE111)	3	General Chemistry II for Majors (CHE112)	3
General Chemistry I Lab for Majors/Recitation (CHE111L)	1	General Chemistry II Lab for Majors/Recitation (CHE112L)	1
Calculus I (MAT231)	4	Calculus II (MAT232)	4
First Year Composition (ENG103)	4	Engineering Graphics (ERG102)	3
African Diaspora/World I (ADW111)	4	African Diaspora/World II (ADW112)	4
Introduction to Engineering (ERG101)	2	Foreign Language (FL201)	4
First Year Seminar in Chemistry (CHE101)	0	First Year Experience (FYE102)	1
First Year Experience (FYE101)	1	Big Question Colloquia (BQC100)	1
TOTAL HOURS	***19***	***TOTAL HOURS***	***21***
SOPHOMORE YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
Organic Chemistry I for Majors (CHE231)	4	Organic Chemistry II for Majors (CHE232)	4
Organic Chemistry I Lab/Recitation(CHE233L)	1	Organic Chemistry II Lab/Recitation (CHE234L)	1
Physics I: Mechanics & Lab (PHY151)	4	Physics II: Elec/Mag & Lab (PHY241)	4
Computer Science I – C++ (CIS121)[3]	4	Calculus III (MAT324)	4
Foreign Language (FL202)	4	Divisional Requirement 1 (Humanities)	4
Wellness & Health	0-1	Wellness & Health	0-1
Sophomore Seminar: Chemistry (SYE103)	1	Sophomore Seminar: Chemistry (SYE104)	1
TOTAL HOURS	***18-19***	***TOTAL HOURS***	***18-19***
JUNIOR YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
Physical Chemistry I (CHE345)	3	Physical Chemistry II (CHE346)	3
Inorganic Chemistry (CHE421)	3	Physical Chemistry II Lab (CHE346L)	1
Inorganic Chemistry Lab (CHE421L)	1	Instrumental Analysis (CHE496)	4
Physics III: Optics & Lab (PHY 242)[1]	4	Linear Algebra (MAT214)	4
Differential Equations (MAT365)	4	Divisional Requirement 3[2]	4
Divisional Requirement 2 (Fine Arts)	4	Women's/International Studies	4
TOTAL HOURS	***19***	***TOTAL HOURS***	***20***
Senior Year			
Eight (8) of the required ten (10) Chemistry content courses are listed in this sequence; the remaining two required Chemistry courses will be taken at the engineering institution upon approval.			

[1] If attending Georgia Tech, Physics III is not required
[2] Must be a course in American History and either Microeconomics or Macroeconomics
[3] Other CIS options include CIS 111, 115
REVIEWED SUMMER 2019

CHEMISTRY MAJOR –*Teaching Certification in Secondary Education*

FIRST YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
General Chemistry I for Majors (CHE111)	3	General Chemistry II for Majors (CHE112)	3
General Chemistry I Lab for Majors/Recitation (CHE111L)	1	General Chemistry II Lab for Majors/Recitation (CHE112L)	1
First Year Seminar in Chemistry (CHE101)	0	Calculus I (MAT231)	4
Pre-Calculus (MAT116 or MAT120)	3-4	Discovering Comp. Sci. (CIS111)	4
First Year Composition (ENG103)	4	African Diaspora/World II (ADW112)	4
African Diaspora/World I (ADW111)	4	First Year Experience (FYE102)	1
First Year Experience (FYE101)	1	Big Question Colloquia (BQC100)	1
Wellness and Health	0-1		
TOTAL HOURS	***16-18***	***TOTAL HOURS***	***18***
SUMMER			
Foreign Language, Math (if not finished with Calculus I)			
SOPHOMORE YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
Organic Chemistry I for Majors (CHE231)	4	Organic Chemistry I for Majors (CHE232)	4
Organic Chemistry I Lab Majors/Recitation (CHE233L)	1	Organic Chemistry II Lab Majors/Recitation (CHE234L)	1
Calculus II (MAT332)	4	Physics I: Mechanics & Lab (PHY151)	4
Sophomore Year Experience (SYE103)	1	Sophomore Year Experience (SYE104)	1
Orientation in Education (EDU206)	4	Divisional Requirement 1	4
Educational Psychology (EDU204)	4	Adolescent Psychology [Soc Sci Div. Req.] (PSY304)	4
TOTAL HOURS	***18***	***TOTAL HOURS***	***18***
JUNIOR YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
Physical Chemistry (CHE345)	3	Biochemical Principles (CHE410)	4
Intro to Environmental Science (ES211)	4	Divisional Requirement 3/Women's or	
Physics II: Elec/Mag & Lab (PHY241)	4	International Studies	4
Wellness and Health	0-1	Curriculum & Methods for Secondary	4
Divisional Requirement 2	4	Exceptional Children (EDU316)	4
TOTAL HOURS	***15-16***	***TOTAL HOURS***	***16***
SENIOR YEAR			
Fall Semester	**Credits**	**Spring Semester**	**Credits**
Analytical Chemistry Lecture (CHE301)	3	Student Teaching (EDU458)	12
Analytical Lab Elective (CHE301L)	1	Seminar II (EDU452)	2
Senior Seminar in Chemistry (CHE429)	1		
Inorganic Chemistry Lecture (CHE421)	3		
Inorganic Chemistry Lab (CHE421)	1		
Chemistry Elective w/Lab	4		
Seminar I for Student Teaching (EDU451)	3		
TOTAL HOURS	***16***	***TOTAL HOURS***	***14***

REVIEWED SUMMER 2019