

DEPARTMENT OF CHEMISTRY

**CHEMISTRY MAJOR
Bachelor of Science Degree**

		Semester Hours		Total Hours
		1 st Sem	2 nd Sem	
FRESHMAN YEAR				
CHEM 111,112	Chemistry I and II	3	3	6
CHEM 113,114	Chemistry Laboratory I and II	2	2	4
ENGL 110,111	Freshman Writing	3	3	6
GE	History Elective		3	3
MATH 200, 201	Calculus I and II	3	3	6
TECH	Technology Elective	3		3
GE	Humanities Elective		3	3
FRST101		<u>2</u>	<u>=</u>	<u>6</u>
		16	17	33
SOPHOMORE YEAR				
CHEM 305, 306	Organic Chemistry	3	3	6
CHEM 307, 308	Organic Chemistry Laboratory	1	1	2
ENGL	Literature Elective	3		3
GEHE /HEPR or 2 GEPE	Wellness/Health Elective		2	2
GE	Humanities Elective	3		3
CHEM301	Analytical Chemistry I	2		2
CHEM303	Analytical Chemistry I Laboratory	1		1
MATH/STAT	Restricted Math Elective		3	3
PHYS116, 117 or 112,113	General Physics I and II	4	4	8
CHEM 210	History of Chemistry		<u>1</u>	<u>1</u>
		<u>17</u>	<u>14</u>	<u>31</u>
JUNIOR YEAR				
CHEM 411	Analytical Chemistry II		3	3
CHEM 404	Exp Physical Chemistry		1	1
CHEM 401, 402	Physical Chemistry I and II	3	3	6
CHEM332	Surviving Professional Life	1		1
GE	Global Studies Elective	3		3
BIOL 120	Principles of Modern Biology I & Lab	4		4
	Restricted Elective	3	3	6
	Unrestricted Elective		3	3
CHEM320	Organic Chemistry III	2		2
CHEM 330	Introduction to Chemical Research		2	2
		16	15	31
SENIOR YEAR				
CHEM422	Biochemistry and Lab	4		4
CHEM 414	Inorganic Chemistry		3	3
CHEM 415	Inorganic Chemistry Laboratory		1	1
CHEM 441,442	Advanced Chemistry Laboratories	2	2	4
CHEM 420	Seminar in Chemistry	1		1
GE	Social Science Elective		3	3
	Restricted Electives	3		3
	Unrestricted Electives	<u>3</u>	<u>3</u>	<u>6</u>
		13	12	25

Students not ready for Calculus I and II in their freshman year may take Math 120 and 121, however, the credits do not count toward the total number of semester hours needed to meet the degree requirements. Restricted electives can be selected from upper level math or statistics courses such as MATH300, MATH325, MATH350, or STAT330. Upper level (200 level or above) chemistry, biology or computer science courses may also be used to satisfy restricted electives.

**DEPARTMENT OF CHEMISTRY
CHEMISTRY MAJOR
Biochemistry Concentration
Bachelor of Science Degree**

		Semester Hours		
		1st Sem	2nd Sem	Total Hours
FRESHMAN YEAR				
CHEM 111,112	Chemistry I and II	3	3	6
CHEM 113,114	Chemistry Laboratory I and II	2	2	4
ENGL 110,111	Freshman Writing	3	3	6
GEHE /HEPR or 2 GEPE	Wellness/Health Elective	-	2	2
MATH 200, 201	Calculus I and II	3	3	6
TECH	Technology Elective	3		3
FRST	Freshman Studies	2		2
GE	History Elective	<u>3</u>	<u>3</u>	<u>3</u>
		16	16	32
SOPHOMORE YEAR				
CHEM 305, 306	Organic Chemistry	3	3	6
CHEM 307, 308	Organic Chemistry Laboratory	1	1	2
CHEM301	Analytical Chemistry I	2		2
CHEM303	Analytical Chemistry Laboratory	1		1
GE	Humanities Elective	3	3	6
BIOL 120	Principles of Modern Biology I & Lab	4		4
BIOL 121	Principles of Modern Biology II & Lab		4	4
GE	Social Science Elective	<u>3</u>		<u>3</u>
BIOL 241	Introduction to Microbiology/Lab	<u>4</u>	<u>4</u>	<u>4</u>
		17	15	32
JUNIOR YEAR				
CHEM 411	Analytical Chemistry II		3	3
BIOL201	Cell and Molecular Biology	3		
BIOL220	Genetics	4		
CHEM 330	Introduction to Chemical Research		2	<u>2</u>
CHEM 401, 402	Physical Chemistry I and II	3	3	6
CHEM 404	Exp Physical Chemistry		1	1
CHEM 332	Surviving Professional Life	1		1
CHEM320	Organic Chemistry III	2		
CHEM210	History of Chemistry		1	
PHYS 116,117 or 112,113	General Physics	<u>4</u>	<u>4</u>	<u>8</u>
		17	14	31
SENIOR YEAR				
CHEM 414	Inorganic Chemistry	3		4
BIOL414	Molecular Biology		4	4
BIOL 419	Cell Physiology & Lab	4		4
CHEM 441,442	Advanced Chemistry Lab I and II	2	2	4
CHEM 422	Introduction to Biochemistry & Lab	4		4
GE	Global Studies Elective		3	3
GE	Literature Elective		<u>3</u>	<u>3</u>
		13	12	25
				120

Students not ready for Calculus I and II in their freshman year may take Math 120 and 121, however, the credits do not count toward the total number of semester hours needed to meet the degree requirements. Restricted electives can be selected from upper level math or statistics courses such as MATH300, MATH325, MATH350, or STAT330. Upper level chemistry or biology courses may also be used to satisfy restricted electives including CHEM417, CHEM400, BIOL425, BIOL440, or BIOL443.

**DEPARTMENT OF CHEMISTRY
PREPHARMACY 3 + 3 CONCENTRATION**

Bachelor of Science Degree

		Semester Hours		
		1st Sem	2nd Sem	Total Hours
FRESHMAN YEAR				
CHEM 111,112	Chemistry I and II	3	3	6
CHEM 113,114	Chemistry Laboratory I and II	2	2	4
ENGL 110,111	Freshman Writing	3	3	6
GEHE /HEPR or 2 GEPE	Health/Wellness Elective		2	2
FRST101	Freshman Studies	2		2
MATH 200, 201	Calculus I and II	3	3	6
GE	Humanities Elective		3	3
GE	History Elective	<u>3</u>	=	<u>3</u>
		16	16	32
SOPHOMORE YEAR				
CHEM 305, 306	Organic Chemistry	3	3	6
CHEM 307, 308	Organic Chemistry Laboratory	1	1	2
BIOL 120	Principles of Modern Biology I & Lab	4		4
GE	Social Science Elective	3		3
PHYS 116,117 or 112,113	General Physics	4	4	8
GE	Tech Elective		3	
GE	Global Studies		3	
ENGL	Literature Elective		3	3
GE	Humanities Elective	<u>3</u>	=	<u>3</u>
		18	17	35
JUNIOR YEAR				
CHEM 332	Surviving Professional Life	1		
CHEM 301,411	Analytical Chemistry I and II	2	3	5
CHEM 303	Analytical Chemistry Lab	1		1
CHEM 404	Exp Physical Chemistry		1	1
CHEM 401, 402	Physical Chemistry I and II	3	3	6
CHEM 441, 442	Advanced Chemistry Lab I and II	2	2	4
	Inorganic Chemistry		3	3
CHEM 414				
CHEM 414	Inorganic Chemistry Laboratory		1	1
CHEM320	Organic Chemistry III	2		
	Restricted Elective	<u>3</u>	<u>4</u>	<u>3</u>
		14	17	31
Total Virginia State University campus credits required				98
Total credits to be transferred from Howard University				22

Students not ready for Calculus I and II in their freshman year may take Math 120 and 121, however, the credits do not count toward the total number of semester hours needed to meet the degree requirements. Restricted electives may be selected from upper level chemistry, math, physics, biology, or computer science courses.