

GEORGE MASON UNIVERSITY
COLLEGE OF SCIENCE
B.S. DEGREE IN BIOLOGY - Concentration in Bioinformatics
(1200 Exploratory Hall, 703-993-1050)
<http://biology.gmu.edu/>
2018 - 2019 CATALOG

	<u>Department(s) & Course #(s)</u>	<u>Completed/ Grade(s)</u>	<u>Needed</u>
<u>MASON CORE REQUIREMENTS (27)</u>			
a. Written Communication: ENGH 101 (100), ENGH 302 (C or better) (3,3)		_____	_____
b. Oral Communication: COMM 100 or 101 (circle choice) (3)		_____	_____
c. Quantitative Reasoning (satisfied by completion of major requirements)		_____	_____
d. Literature (3)	_____	_____	_____
e. Arts (3)	_____	_____	_____
f. Western Civilization (3)	_____	_____	_____
g. Social & Behavioral Science (3)	_____	_____	_____
h. Natural Science (satisfied by completion of major requirements)		_____	_____
i. Global Understanding (3)	_____	_____	_____
j. Information Technology (satisfied by CDS 130)		_____	_____
k. Synthesis (3)	_____	_____	_____

Go to: <http://catalog.gmu.edu/mason-core/> to link to information on Mason Core requirements.

MAJOR REQUIREMENTS (75- 85 major credit hours required)

Students must earn a minimum GPA of 2.0 in their Biology course work and a minimum GPA of 2.0 in supporting course work.

Biology Core Courses (22 credit hours)

a. BIOL 213 (4) (grade of C or better required to advance to other core requirements)	a. _____	_____
b. BIOL 214 (4) (grade of C or better required)	b. _____	_____
c. BIOL 311 (4) (grade of C or better required)	c. _____	_____
d. BIOL 308 (writing intensive course) (5) (grade of C or better required)	d. _____	_____
e. BIOL 310 (3) and BIOL 330 (2) (grade of C or better required)		_____

Bioinformatics Concentration Requirements (23-25 credits)

f. Bioinformatics Courses(6 credits): BINF 401, 402 (3, 3)		
g. Biology (14-16 credits)		
1. BIOL 312	1. _____	_____
2. BIOL 401	2. _____	_____
3. BIOL 412	3. _____	_____
4. Biology Lab Elective, select one from following: BIOL 320, 322/323, 331, 332, 334, 336, 344, 345 350, 355, 379, 385/486, 405, 406, 407, 430, 431, 437, 438, 439, 452/453, 454/455, 465, 468, 472/473, 484/485, 509/510, 543 or 305/306	4. _____	_____

OTHER SCIENCE AND TECHNOLOGY (30-38 credit hours required)

a. CHEM 211/213, CHEM 212/214 (3,1/3,1)	a. _____	_____
b. CHEM 313, CHEM 315 (3,2)	b. _____	_____
c. PHYS 243/244 and PHYS 245/246 or PHYS 160/161 and PHYS 260/261 (3/1, 3/1)	c. _____	_____
d. One of the following options: A: CHEM 314 & CHEM 318 (please circle choice) (3,2) OR B: GEOL 101 and GEOL 102 (4,4) OR C: One additional three-credit chemistry course at the 300- or 400-level (not CHEM 314)	d. _____	_____
e. CDS 130 (recommended) or any course(s) that fulfills the IT Mason Core requirement (3)	e. _____	_____
f. CDS 230 (3)	f. _____	_____

NOTES: No more than eight credits of BIOL 103 or 106/107 may be applied toward elective credit (or equivalent transfer credit at the 100-200 level) if taken before successful completion of BIOL 213. Students may not count BIOL 124 and/or 125 toward any Biology major requirement, Students who take BIOL 310 may not count BIOL 303 and/or 304 toward any Biology major requirement.

GENERAL ELECTIVES: Maximum 2 credits of PHED, PRLS, and RECR coursework toward a COS degree. Only MLSC 400 and MLSC 402 may be used for credit towards a COS degree. (List courses)

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

MINIMUM 120 HOURS (including Minimum 45 UPPER DIVISION HOURS) to GRADUATE

This planning form is intended to be used in consultation with your academic advisor and reflects the requirements for the 2018 - 2019 Catalog; the University Catalog is the official reference for program requirements.

B.S. Biology

2018 - 2019

FALL YEAR 1	CREDITS	SPRING YEAR 1	CREDITS	NOTES
BIOL 213	4	BIOL 310	3	*Math Req =
CHEM 211	3	BIOL 330	2	MATH 111, 113 or
CHEM 213	1	MATH Req*	3 or 4	123/124 (two
Mason Core	3	CHEM 212	3	semesters).
Mason Core	3	CHEM 214	1	*BIOL 214 can be
UNIV 100	1	Mason Core	3	taken with 213 in
Total:	15 credits	Total:	15 or 16 credits	first semester.

FALL YEAR 2	CREDITS	SPRING YEAR 2	CREDITS	NOTES
BIOL 214	4	BIOL 311	4	*CHEM 314/318 can
Mason Core	3	Mason Core	3	Be replaced by GEOL
CHEM 313	3	CHEM 314*	3	101 (4) and GEOL 102
CHEM 315	2	CHEM 318*	2	(4) OR and additional
Mason Core	3	Mason Core	3	3 credit upper-level
Total:	15 credits	Total:	15 credits	CHEM course (not 314)

FALL YEAR 3	CREDITS	SPRING YEAR 3	CREDITS	NOTES
BIOL 412	3	BIOL 312	4	*PHYS requirement
PHYS Lecture*	3	PHYS Lecture*	3	can be fulfilled by the
PHYS Lab	1	PHYS Lab	1	following sequences:
BIOL 401	3	BIOL Lab Elective*	4	PHYS 160/161 and 260/ 261 OR PHYS 243/244
CDS 130	3	CDS 230	3	and 245/246.
Total:	13 credits	Total:	15 credits	*Labs listed below.

FALL YEAR 4	CREDITS	SPRING YEAR 4	CREDITS	NOTES
BIOL 308	5	Synthesis	3	
BINF 401	3	BINF 402	3	
ENGH 302	3	General Elective	3	
General Elective	3	General Elective	3	
General Elective	2	General Elective	3	
Total:	16 credits	Total:	15 credits	

*THIS IS A SAMPLE PLAN. BECAUSE THE SEMESTERS WHEN CONCENTRATION REQUIREMENTS ARE OFFERED CAN VARY, IT IS BEST TO MAKE AN INDIVIDUAL DEGREE PLAN WITH A BIOLOGY ADVISOR.

*Students must earn 120 credits for graduation; 45 credits must be upper-level (courses 300+).

*Courses that fulfill the Biology Lab Elective for this concentration are BIOL 320, BIOL 322/323, BIOL 331, BIOL 332, BIOL 334, BIOL 336, BIOL 344, BIOL 345, BIOL 350, BIOL 355, BIOL 379, BIOL 385/486, BIOL 405,

BIOL 406, BIOL 407, BIOL 430, BIOL 431, BIOL 437, BIOL 438, BIOL 439, BIOL 452/453, BIOL 454/455, BIOL 465, BIOL 468, BIOL 472/473, BIOL 484/485, BIOL 509/510, BIOL 543, or BIOL 305/306.

*BIOL 412 is offered in the fall semester every other year.