College of Science	- Biology, BS with Concentration in Biotechnology and Molecular Bio	ology		
	Catalog Year: 2019 - 2020	1	Gra	ades
Mason Core Requirements: 27 credits	Course Information	Credits	Earned	Needed
Written Communication:	ENGH 101 (100)	3		
Oral Communication:	, ,	3		
*Quantitative Reasoning	*Satisfied by Major Requirements			
*Information Technology	*Satisfied by Major Requirements			
Arts		3		
Global Understanding		3		
Literature		3		
*Natural Science	*Satisfied by Major Requirements	1		
Social & Behavioral Sciences	Sutisfied by Major Requirements	3		
Western Civilization/World History		3		
Written Communication:	ENGH 302	3		
	ENGH 502	3	-	
Synthesis/Capstone	Maia Bandana ata (76, 70 analita)	3	<u>.                                    </u>	<u> </u>
A minimum GPA of 2.0 in	Major Requirements (76 - 79 credits) the BIOL courses listed in the degree program. 44 credits in biology	coursewo	rk	
Biology Core (21 credits) Minimum grade		Credits		Needed
BIOL 213	Cell Structure and Function (Mason Core)	4		
BIOL 214	Biostatistics for Biology Majors	4		
BIOL 300	BioDiversity	4		Ì
BIOL 308	Foundations of Ecology and Evolution 1	5		
BIOL 311	General Genetics	4		
	credits) A min GPA of 2.0 in the supporting courses in the degree pr	ogram		
CHEM 211/213	General Chemistry I with Lab	3/1		
CHEM 212/214	General Chemistry II with Lab	3/1		
CHEM 313 & CHEM 315	Organic Chemistry I and Organic Chemistry Lab I	5		
One from the following Mason Core Natur		J		ļ
PHYS 160/161 and 260/261	University Physics I & II with labs			
PHYS 243/244 & PHYS 245/246	College Physics I & II with labs	8		
		2.4	-	
CDS 130 or Any approved Mason Core IT re		3-4		
One from the following: MATH 111, 113, 1	·	3-6		
	in Biotechnology and Molecular Biology (28 credits in concentration		1	1
BIOL 305	Biology of Microorganisms	3		
BIOL 306	Biology of Microorganisms Laboratory	1		
BIOL 385	Biotechnology and Genetic Engineering	3		
BIOL 483	General Biochemistry	4		
CHEM 314 & 318	Organic Chemistry II with Lab II	5		
Additional BIOL course (12 credits -at least	one lab):Lab courses: BIOL 402 & 403, 405, 452 &453, 465, 486437,	12		
438, 472, 473, 483. Must include a laborat	ory; Non-lab courses: BIOL 314, 382, 401, 411, 412, 417, 418, 420,	12		
	Degree Notes			
	e completed with elective courses to bring the degree total to 120 with pecting to Enter Graduate School are encouraged to complete: MAT			s at the

## BS BIOLOGY For Students who have taken AP/IB biology regardless of AP/IB score **Starting with BIOL213**

Fall (Semester 1)	Credits	Spring (Semester 2)	Credits
BIOL213	4	BIOL300	4
Mason Core	3	MATH	3-4
CHEM211, CHEM213	4	CHEM212, CHEM214	4
Mason Core	3	Mason Core	3
BIOL101 or Univ100	1		
TOTAL	15	TOTAL	14-15

Can take Biol214 with Biol213 first semester.

Fall (Semester 3)	Credits	Spring (Semester 4)	Credits
BIOL214	4	BIOL 311	4
Mason Core or MATH*	3-4	Mason Core	3
Chem 313	3	CHEM 314**	3
Chem 315	2	CHEM 318**	2
Mason Core	3	Mason Core	3-4
TOTAL	15-16	TOTAL	15-16

 $<sup>^*\,2^{</sup>nd}$  math not required but many professional schools require 2 semesters calculus

\*\* Can take 2 semesters GEOL or an >300 chemistry course instead

Fall (Semester 5)	Credits	Spring (Semester 6)	Credits
BIOL elective with lab	4	BIOL elective with lab	4
Mason Core	3-4	BIOL elective	3
Physics lecture	3	Physics lecture	3
Physics Lab	1	Physics lab	1
elective	3	Mason Core	3
TOTAL	15-16	TOTAL	14

Fall (Semester 7)	Credits	Spring (Semester 8)	Credits
BIOL308	5	BIOL elective	3
BIOL elective	3	BIOL elective	3
ENGH302	3	BIOL elective	3
Elective	3-4	Synthesis	3
		Elective	3
TOTAL	14-15	TOTAL	15

Note: need 22 credits biology elective. 2 courses with labs at >300 level. Can take Senior seminar as a biology elective. Need 120 credits to graduate

## BS BIOLOGY

## **Starting with BIOL103**

Fall (Semester 1)	Credits	Spring (Semester 2)	Credits
BIOL103	4	BIOL213	4
Mason Core	3	MATH	3-4
CHEM211, CHEM213	4	CHEM212, CHEM214	4
Mason Core	3	Mason Core	3
BIOL101 or Univ100	1		
TOTAL	15	TOTAL	14-15

Fall (Semester 3)	Credits	Spring (Semester 4)	Credits
BIOL214	4	BIOL300	4
Mason Core or MATH*	3-4	Mason Core	3
Chem 313	3	CHEM 314**	3
Chem 315	2	CHEM 318**	2
Mason Core	3	Mason Core	3
TOTAL	15-16	TOTAL	15

- 2<sup>nd</sup> math not required but many professional schools require 2 semesters calculus
- \*\* can take 2 semesters GEOL or an >300 chemistry course instead

Fall (Semester 5)	Credits	Spring (Semester 6)	Credits
BIOL elective with lab	4	BIOL elective with lab	4
Mason Core	3-4	BIOL311	4
Physics lecture	3	Physics lecture	3
Physics Lab	1	Physics lab	1
elective	3	Mason Core	3
TOTAL	14-15	TOTAL	15

Fall (Semester 7)	Credits	Spring (Semester 8)	Credits
BIOL308	5	BIOL elective	3
BIOL elective	3	BIOL elective	3-4
BIOL elective	3	Synthesis	3
Mason Core	3	Elective	3
		Elective	3
TOTAL	14	TOTAL	15-16

Note: need 22 credits biology elective. 2 courses with labs at >300 level. Can take Senior seminar as a biology elective. Need 120 credits to graduate