

**GEORGE MASON UNIVERSITY
COLLEGE OF SCIENCE**

**B.S. DEGREE IN BIOLOGY-CONCENTRATION IN BIOTECHNOLOGY AND MOLECULAR BIOLOGY
(1200 Exploratory Hall, 703-993-1050)**

<http://biology.gmu.edu/>
2016-2017 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 completion of major requirements)	_____	_____
k.	Synthesis (3)	_____	_____

Go to: <http://masoncore.gmu.edu/> to link to information on Mason Core requirements.

MAJOR REQUIREMENTS (76-77)

a.	Twenty-two credits in biology core courses (22)		
1.	BIOL 213 (4) (grade of C or better required to advance to other core requirements)	1. _____	_____
2.	BIOL 214 (4) (grade of C or better required)	2. _____	_____
3.	BIOL 311 (4) (grade of C or better required)	3. _____	_____
4.	BIOL 308 (writing intensive course) (5) (grade of C or better required)	4. _____	_____
5.	BIOL 310 (3) and BIOL 330 (2) (grade of C or better required)	5. _____	_____
b.	Eleven credits in biotechnology courses (11)		
1.	BIOL 305 (3)	1. _____	_____
2.	BIOL 306 (1)	2. _____	_____
3.	BIOL 385 (3)	3. _____	_____
4.	BIOL 483 (4)	4. _____	_____
c.	Eleven credits of additional BIOL coursework (at least one the courses must include a laboratory): Laboratory courses: BIOL 402 and 403 (3 & 1), 405 (4), 406 (4), 452 and 453 (3 & 1), 486 (2). Non-laboratory courses: BIOL 314 (4), 382 (3), 411 (3), 417 (1-4)*, 418 (3)*, 420 (3), 421 (3), 422 (3), 482 (3), 484 (3), 497 (1-4)* (circle choices) (11)		
	*Registration for BIOL 417, 418, or 497 is subject to approval by Director of Undergraduate Studies and the Chairman of the Department of Biology		
d.	Eighteen credits of chemistry (18)		
1.	CHEM 211/213, CHEM 212/214 (3,1/3,1)	1. _____	_____
2.	CHEM 313, CHEM 315 (3,2)	2. _____	_____
3.	CHEM 314, CHEM 318 (3,2)	3. _____	_____
e.	PHYS 243/244 and PHYS 245/246 or PHYS 160/161 and PHYS 260/261 (3/1, 3/1)	e. _____	_____
f.	One course from (circle choice): MATH 111(3) or MATH 113 (4) or MATH 123 & 124 (3,3)	f. _____	_____
g.	CDS 130 (recommended) or any course(s) that fulfills the IT Mason Core requirement (3)	g. _____	_____

NOTES: 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. No more than eight credits of BIOL 103 or 104 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 (List courses)

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

MINIMUM HOURS TO GRADUATE: 120

UPPER DIVISION HOURS (minimum 45):

This planning form is intended to be used in consultation with your academic advisor and reflects the requirements for the 2016-2017 Catalog; the University Catalog is the official reference for program requirements.

COURSE LISTS (BIOLOGY, BS, CONCENTRATION IN BIOTECHNOLOGY AND MOLECULAR BIOLOGY)

Mason Core Requirements

Written Communication: ENGH 101 (or 100) and ENGH 302

Oral Communication: COMM 100 or COMM 101

Quantitative Reasoning: MATH 111, 113, or 123 & 124. The Math Placement Test is required to take MATH 113 and MATH 123. See this web site for more information: http://math.gmu.edu/placement_test.php

Literature: ARAB 325; CHIN 310, 311, 325, 328; CLAS 250, 260, 340, 350, 360, 380; ENGH 201, 202, 203, 204; FREN 325, 329; FRLN 330; GERM 325; ITAL 320, 325; JAPA 340; KORE 311; PHIL 253; RELI 235; RUSS 325, 326, 327; SPAN 325

Arts: ARTH 101, 102, 103, 200, 201, 203, 204, 321, 322, 324, 333, 334, 335, 340, 341, 342, 344, 345, 360, 362, 370, 372, 373, 376; AVT 103, 104, 215, 222, 232, 243, 252, 253, 262, 272, 385; DANC 101, 119, 125, 131, 145, 161, 225, 231, 245, 301, 325, 331, 345, 425, 445, 390, 391; ENGH 370, 372, 396; FAVS 225; GAME 101; MUSI 100, 101, 102, 107, 280, 301, 302, 380, 381, 382, 383, 384, 385, 387, 389, 485; PHIL 156; THR 101, 150, 151, 210, 230, 395, 411, 412.

Western Civilization: HIST 100 or 125; transfer students may substitute: the following courses for HIST 100: HIST 101, 102, 301, 302, 304, 305, 306, 308, 309, 312, 314, 322, 388, 436, 480; and the following courses for HIST 125: HIST 202, 387.

Social and Behavioral Sciences: AFAM 200; ANTH 114, 120, 135, 363, 372, 396; BUS 100; CONF 101; CONS 410; CRIM 100; ECON 100, 103, 104, 105, 367; EDUC 203, 372; GGS 103; GOVT 101, 103, 367; HEAL 230; HIST 121, 122; LING 306; PSYC 100, 211, 231; SOCI 101, 352, 355; TOUR 311; WMST 200

Natural Sciences: BIOL 213, CHEM 211/213, CHEM 212/214

Global Understanding: ANTH 302, 306, 307, 308, 309, 311, 312, 313, 316, 331, 332; ARTH 319, 320, 380, 382, 383, 384, 385, 386; BUS 200; CEIE 100; COMM 305, 456; CRIM 405; DANC 118, 318, 418; ECON 360, 361, 362, 380, 390; ENGH 362, 366; FAVS 300; FRLN 331; GCH 205; GGS 101; GLOA 101; GOVT 132, 133; HIST 251, 252, 261, 262, 271, 272, 281, 282, 328, 329, 356, 357, 358, 360, 364, 365, 387, 460, 462; JAPA 310; MBUS 305; MUSI 103, 431; PHIL 243; PSYC 379; RELI 100, 211, 212, 313, 315, 320, 322, 341, 374; RUSS 354; SOCI 120, 320, 332; SPAN 322, 466; SYST 202; THR 359, TOUR 210; WMST 100

Information Technology: **One of these courses**: ANTH 395, CDS 130, CS 100, GOVT 300, HIST 390, IT 104, MIS 303, MUSI 259 **or Course(s) from a) and one course from b): a)** AVT 180; CS 112; PHYS 251; PSYC 300, 301, & 372 (all three must be taken and in sequence); SOCI 410 **b)** CDS 151, CEIE 409, CS 105, ENGR 107, IT 304, PHIL 112 (**CDS 130 recommended**)

Synthesis: ANTH 400; ARTH 394; AVT 385, 497, 498; BENG 492, 493; BINF 354; BIOL 301; BIS 490; BUS 498; CEIE 490; COMM 326, 362, 454; CONF 490; CONS 490, 491; CRIM 495; CS 306; DANC 490; ECE 492, 493; ECON 309; EDCI 490; EVPP 480; FAVS 352; FRLN 385; GAME 490; GCH 465; GEOL 420; GGS 303, 304; GOVT 490, 491; HAP 465; HDFS 400; HIST 300, 499; INTS 308; IT 492; LAS 499; MATH 400; MUSI 490; NURS 465; PHIL 309, 343, 377, 378, 379; PHYS 346; PROV 342; PSYC 405, 406, 427; RELI 490; RUSS 353; SOCI 377, 483; SOCW 375; SPAN 388; SYST 495; THR 440, 496