

**GEORGE MASON UNIVERSITY
COLLEGE OF SCIENCE**

**B.S. DEGREE IN BIOLOGY-CONCENTRATION IN BIOTECHNOLOGY AND MOLECULAR BIOLOGY
(1201 Exploratory Hall, 703-993-1050)**

<http://cos.gmu.edu/academics/undergraduate/majors/biology>

2013-2014 CATALOG

	<u>Department(s) & Course #(s)</u>	<u>Completed/ Grade(s)</u>	<u>Needed</u>
GENERAL EDUCATION REQUIREMENTS (27)			
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://provost.gmu.edu/gened/general-education-requirements/> to link to information on general education 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 (5) (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 chosen from: BIOL 402 (3), 403*(1), 405 (4), 406 (4), 411 (3), 417**(1-4), 418**(3), 420 (3), 421 (3), 422 (3), 452 (3), 453* (1), 482 (3), 484 (3), 486 (2), 497**(1-4) (circle choices) (11)			
*BIOL 403 must be taken with BIOL 402 and BIOL 453 must be taken with BIOL 452.			
**Registration for BIOL 417, 418 or 497 subject to approval by program coordinator.			
d. Eighteen credits of chemistry (18)			
1. CHEM 211, CHEM 212 (4,4)		1. _____	_____
2. CHEM 313, CHEM 315 (3,2)		2. _____	_____
3. CHEM 315, 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), 113 (4), 114 (4)		f. _____	_____
g. CDS 130 (recommended) or any course that fulfills the IT general education requirement (3)g.		_____	_____

NOTES: Students must earn a minimum GPA of 2.0 in the 44 credits of Biology courses 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 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 2013-2014 Catalog; the University Catalog is the official reference for program requirements.

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

University General Education Requirements

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

Oral Communication: COMM 100 or COMM 101

Quantitative Reasoning: MATH 111 or 113 (The Math Placement Test is required to take a MATH course. See this web site for more information: http://cos.gmu.edu/academics/undergraduate/math_placement_testing)

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; 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, 372, 373, 376; AVT 103, 104, 215, 222, 232, 243, 252, 253, 262, 272; DANC 101, 119, 125, 131, 145, 161, 225, 231, 245, 301, 390, 391; ENGH 370, 372, 396; FAVS 225; GAME 101; MUSI 100, 101, 102, 107, 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, 435, 436, 480; transfer students may substitute the following courses for HIST 125: HIST 202 & 387.

Social and Behavioral Sciences: AFAM 200; ANTH 114, 120, 135, 396; CONF 101; CONS 410; CRIM 100; ECON 100, 103, 104, 105, 110, 111 (110 and 111 must be taken together); EDUC 372; GGS 103; GOVT 101, 103, 367; HEAL 230; HIST 121, 122; LING 306; PSYC 100, 211, 231; SOCI 101, 355; SOM 100; TOUR 311; WMST 200

Natural Sciences: CHEM 211 & 212

Global Understanding: ANTH 302, 304, 306, 307, 308, 309, 311, 312, 313, 316, 331, 332, 385; ARTH 319, 320, 380, 382, 383, 384, 385, 386; CEIE 100; COMM 305, 456; CRIM 405; DANC 118, 318, 418; ECON 360, 361, 362, 380, 390; ENGH 362, 366; GCH 205; GGS 101; GLOA 101; GOVT 132, 133; HIST 130, 251, 252, 261, 262, 271, 272, 281, 282, 328, 329, 356, 358, 360, 364, 365, 387, 460, 462; JAPA 310; MSOM 305; MUSI 103, 431; PHIL 243; PSYC 379; RELI 100, 211, 212, 313, 315, 341, 374; RUSS 354; SOCI 120, 320, 332; SPAN 322; SYST 100; THR 359, TOUR 210; WMST 100

Information Technology: **One of these courses:** ANTH 395, CDS 130, CEIE 117, CHEM 350, GOVT 300, HIST 390, IT 103, MUSI 415

Synthesis: ANTH 400; ARTH 394; AVT 385, 497, 498; BENG 492, 493; BINF 354; BIOL 301; BIS 490; CEIE 490; COMM 326, 362, 454; CONF 490; CONS 490; CRIM 495; CS 306; DANC 490; ECE 447, 492, 493; ECON 309; EDCI 490; ENGH 305; EVPP 335, 480; FAVS 352; FRLN 385; GAME 490; GCH 465; GEOL 420; GGS 303, 304; GOVT 490, 491; HAP 465; HIST 300, 499; IT 492; LAS 499; MATH 400; MUSI 490; NCLC 308; NURS 465; PHIL 309, 343, 377, 378; PHYS 346; PROV 342; PSYC 405, 406, 427; RELI 490; RUSS 353; SOCI 377, 483; SOCW 323, SOM 498; SPAN 388; SYST 495; THR 440, 496; UNIV 442