

GEORGE MASON UNIVERSITY
THE VOLGENAU SCHOOL OF INFORMATION TECHNOLOGY AND ENGINEERING
B.S. DEGREE IN BIOENGINEERING (3100 The Engineering Building, 703-993-1569)

<http://bioengineering.gmu.edu/>

2012-2013 CATALOG

	<u>Department(s) & Course #(s)</u>	<u>Completed/ Grade(s)</u>	<u>Needed</u>
<u>GENERAL EDUCATION REQUIREMENTS (24)</u>			
a. Written Communication: ENGH 101 (100), ENGH 302 (C or better) (3,3)		_____	_____
b. Oral Communication: COMM 100 (3)		_____	_____
c. Quantitative Reasoning (satisfied by completion of major requirements)		_____	_____
d. Literature (3) (from courses approved by the department)		_____	_____
e. Arts (3) (from courses approved by the department)		_____	_____
f. Western Civilization (HIST 100, 125, or acceptable transfer course)		_____	_____
g. Social & Behavioral Science: ECON 103 (3)		_____	_____
h. Natural Science (satisfied by completion of major requirements)		_____	_____
i. Global Understanding (3) (from courses approved by the department)		_____	_____
j. Information Technology (satisfied by completion of major requirements)		_____	_____
k. Synthesis (BENG 492 and 493 are pending approval to meet this requirement)		_____	_____

BIOENGINEERING, MATHEMATICS, COMPUTER SCIENCES, AND BASIC SCIENCES (71)

a. BENG 101, BENG 220 (3,3)	a. _____	_____
b. BENG 301, BENG 302 (3,1)	b. _____	_____
c. BENG 304, BENG 320 (3,3)	c. _____	_____
d. BENG 380, BENG 381 (3,1)	d. _____	_____
e. BENG 491, BENG 492 (1,2)	e. _____	_____
f. BENG 493, BENG 495 (2,1)	e. _____	_____
g. BIOL 213 & BIOL 425 or BENG 313 (4,3)	g. _____	_____
h. CS 112, ENGR 107 (4,2)	g. _____	_____
i. Technical Foundation Sequence (see BENG advisor for course options) (6)	i. _____	_____
j. MATH 113, MATH 114 (4,4)	j. _____	_____
k. MATH 213, MATH 214 (3,3)	k. _____	_____
l. MATH 203 (3)	l. _____	_____
m. PHYS 160, PHYS 161 (3,1)	m. _____	_____
n. PHYS 260, PHYS 261 (3,1)	n. _____	_____
o. STAT 344 (3)	o. _____	_____
p. CHEM 251 (4)	p. _____	_____

CONCENTRATIONS (25)

a. Biomedical Signals and Systems (19)		
1. BENG 425 (3)	1. _____	_____
2. One of the following (circle choice): BINF 401, CS 444, CS 445 (3)	2. _____	_____
3. PHYS 262, PHYS 263 (3,1)	3. _____	_____
5. Technical Foundation Credits (6) (for examples see: http://catalog.gmu.edu/preview_program.php?catoid=19&poid=18135)		
4. Nine credits of Technical Electives chosen from the following (circle choices): BENG 395, 441, 525, 538; BINF 354; CS 310, 444, 445; ECE 305, 421; PHYS 306; and/or only one of the following: BIOL 305, CHEM 313, NEUR 327, PSYC 372		
b. Biocomputation (19)		
1. CS 105, CS 211 (1,3)	1. _____	_____
2. CS 310, CS 444 (3,3)	2. _____	_____
3. CS 445, CS 450 (3,3)	2. _____	_____
4. MATH 125 (3)	4. _____	_____
4. Six credits of Technical Electives chosen from the following (circle choices): two course from: CS 480, 483, 484 OR one course chosen from: CS 480, 483, 484 and one of the following: BIOL 305/306 (3,1), NEUR 327 (3), PSYC 372 (3)		

A grade of C or better is required in all BIOL, BENG, ECE, and ENGR courses presented as part of the 120 credits hours needed for the degree.

MINIMUM HOURS TO GRADUATE: 120

UPPER DIVISION HOURS (minimum 45): Satisfied by required courses.
TRANSFER COURSES WITH "L" IN "EQUIVALENCIES" DO NOT CONTRIBUTE TO THE REQUIRED 45 HOURS.

This planning form is intended to be used in consultation with your academic advisor and reflects the requirements for the 2012-2013 Catalog; the University Catalog is the official reference for program requirements

Course Lists (Bioengineering)

University General Education Requirements

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

Oral Communication: COMM 100

Quantitative Reasoning: MATH 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; FRLN 330; GERM 325; ITAL 325; PHIL 253; RELI 235; RUSS 325, 326, 327; SPAN 325

Arts: ARTH 101, 102, 200, 201, 204, 321, 322, 324, 333, 334, 340, 341, 342, 344, 360, 362, 372, 373, 376; DANC 101; ENGH 332; MUSI 101, 102, 107, 302; THR 101, 150, 151.

Western Civilization: HIST 100 or 125; transfer students may substitute the following courses for HIST 100 or 125: HIST 101, 102, 301, 302, 304, 305, 306, 308, 309, 314, 321, 322, 388, 435, 436, 480.

Social and Behavioral Sciences: **ECON 103**

Natural Sciences: PHYS 160/161 & 260/261; BIOL 213; CHEM 251

Global Understanding: ANTH 302, 304, 306, 308, 309, 311, 312, 332, 385; ARTH 319, 320, 380, 382, 383, 384, 385; COMM 305; ECON 360, 361, 362, 380, 390; ENGH 349; GGS 101; GLOA 101; GOVT 132, 133; HIST 130, 251, 252, 262, 272, 282, 329, 356, 364, 460, 462; JAPA 310; MSOM 305; MUSI 103, 431; RELI 100, 211, 212, 313, 315, 374; RUSS 354; SOCI 120, 332; SPAN 322; WMST 100

Information Technology: CS 112 and ENGR 107

Synthesis: ANTH 400; ARTH 394; AVT 497, 498; 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; FAVS 352; FRLN 385; GEOL 420; GGS 303, 304; GOVT 490, 491; HAP 465; HIST 300, 499; IT 492; LAS 499; MATH 400; MUSI 490; NCLC 308; PHIL 309, 343, 377, 378; PSYC 405, 406; RELI 490; RUSS 353; SOCI 377, 483; SOCW 323, SOM 498; SPAN 388; SYST 495; THR 440, 496; PROV 342; UNIV 442 (**BENG 492 and 493 are pending approval to meet this requirement**)