

**GEORGE MASON UNIVERSITY  
VOLGENAU SCHOOL OF ENGINEERING  
B.S. DEGREE IN APPLIED COMPUTER SCIENCE (BIOINFORMATICS CONCENTRATION)  
(4300 The Engineering Building, 703-993-1530)  
<http://cs.gmu.edu/programs/undergraduate/#BSACS>  
2011-2012 CATALOG**

	<u>Department(s) &amp; Course #(s)</u>	<u>Completed/ Grade(s)</u>	<u>Needed</u>
<b><u>GENERAL EDUCATION REQUIREMENTS (27)</u></b>			
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)	_____	_____
e.	Arts (3)	_____	_____
f.	Western Civilization (HIST 100, 125, or acceptable transfer course) (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://chss.gmu.edu/general-education/all-requirements> to link to information on general education requirements.

**MAJOR REQUIREMENTS (88 hours required)**

a.	CS 101, 105 (2,1)	a. _____	_____
b.	CS 112, 211 (4,3)	b. _____	_____
c.	CS 262, 310 (1,3)	c. _____	_____
d.	CS 321, 330 (3,3)	d. _____	_____
e.	CS 367, 465 (3,3)	e. _____	_____
f.	CS 483, ECE 301 (3,3)	f. _____	_____
g.	One CS course numbered above 400 (3) CS _____	g. _____	_____
h.	Fourteen hours of Mathematics course work (14)		
	1. MATH 113, 114 (4,4)	1. _____	_____
	2. MATH 203, 125 (3,3)	2. _____	_____

**BIOINFORMATICS CONCENTRATION (39)**

a.	PHYS 160,161 (3,1)	a. _____	_____
b.	CHEM 201 (3), BIOL 213 (4)	b. _____	_____
c.	STAT 344 (3)	c. _____	_____
d.	BINF 450 (4), BIOL 482 (3)	d. _____	_____
e.	BIOL 580 (3), CS 450 (3)	e. _____	_____
f.	BINF 401 or CS 444 (circle choice) (3)	f. _____	_____
g.	BINF 402 or CS 445 (circle choice) (3)	g. _____	_____
h.	Two approved electives related to bioinformatics (3,3) (list courses)		
	_____	_____	_____
	_____	_____	_____

**GENERAL ELECTIVES** (List courses as needed)

	_____	_____
	_____	_____

**MINIMUM HOURS TO GRADUATE: 120**

<b>UPPER DIVISION HOURS (minimum 45):</b>
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This planning form is intended to be used in consultation with your academic advisor and reflects the requirements for the 2011-2012 Catalog; the University Catalog is the official reference for program requirements.

# COURSE LISTS (APPLIED COMPUTER SCIENCE, BIOINFORMATICS CONCENTRATION)

## 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](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 325; 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 372, 396; 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 or 125: HIST 101, 102, 301, 302, 304, 305, 306, 308, 309, 314, 321, 322, 388, 435, 436, 480.

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; HEAL 230; HIST 121, 122; LING 326; PSYC 100, 211, 231; SOCI 101; SOM 100; TOUR 311; WMST 200

Natural Sciences: BIOL 213, PHYS 160/161

Global Understanding: ANTH 302, 304, 306, 307, 308, 309, 311, 312, 313, 331, 332, 385; ARTH 319, 320, 380, 382, 383, 384, 385, 386; CEIE 100; COMM 305, 456; CRIM 405; DANC 118, 318; 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; 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: CS 105 and CS 112

Global Understanding: ANTH 302, 304, 306, 307, 308, 309, 311, 312, 313, 331, 332, 385; ARTH 319, 320, 380, 382, 383, 384, 385, 386; CEIE 100; COMM 305, 456; CRIM 405; DANC 118, 318; 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; 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