

**GEORGE MASON UNIVERSITY
VOLGENAU SCHOOL OF ENGINEERING
B.S. DEGREE IN APPLIED COMPUTER SCIENCE (BIOINFORMATICS CONCENTRATION)
(4300 Nguyen Engineering Building, 703-993-1530)
<http://cs.gmu.edu/programs/undergraduate/acs/>
2017-2018 CATALOG**

	<u>Department(s) & Course #(s)</u>	<u>Completed/ Grade(s)</u>	<u>Needed</u>
<u>MASON CORE 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)	_____	_____
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) (satisfied by completion of major requirements)		

Applied Computer Science majors must take the Natural Sciences section of [ENGH 302](#).

Go to: <http://catalog.gmu.edu/mason-core/> to link to information on Mason Core requirements.

MAJOR REQUIREMENTS (91 hours required)

ACS Foundation Courses (24)			
a.	CS 110 (3)	a. _____	_____
b.	CS 112, 211 (4,3)	b. _____	_____
c.	MATH 113, 114 (4,4)	c. _____	_____
d.	MATH 125, 203 (3,3)	d. _____	_____
ACS Core (22)			
a.	CS 262 (3)	a. _____	_____
b.	CS 310, 321 (3,3)	b. _____	_____
c.	CS 330, 367 (3,4)	c. _____	_____
d.	CS 465, 483 (3,3)	d. _____	_____
ACS Elective (3)			
a.	One CS course numbered above 400 except CS 498 (3) CS _____	a. _____	_____
BIOINFORMATICS CONCENTRATION (42)			
a.	PHYS 160,161 (3,1)	a. _____	_____
b.	CHEM 201 (3), BIOL 213 (4)	b. _____	_____
c.	STAT 344 (3), CS 306 (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 (5) (List courses as needed)

	_____	_____
	_____	_____

MATH 104, MATH 105, and MATH 108 cannot be counted toward this degree.

Students must take [CS 101](#) within their first year at the university. Students should take [CS 105](#) during their second semester. A grade of C or better must be earned in [CS 306](#) for this course to satisfy the [Mason Core](#) synthesis requirement.

Students must earn a C or better in any course intended to satisfy a prerequisite for a computer science course. Computer science majors may not use more than one course with grade of C- or lower toward department requirements.

MINIMUM 120 HOURS (including Minimum 45 UPPER DIVISION HOURS) to GRADUATE

This planning form is intended to be used in consultation with your academic advisor and reflects the requirements for the 2017-2018 Catalog; the University Catalog is the official reference for program requirements.

COURSE LISTS (APPLIED COMPUTER SCIENCE, BIOINFORMATICS CONCENTRATION)

Mason Core Requirements

Written Communication: ENGH 101 (or 100) and ENGH 302 (Natural Sciences section)

Oral Communication: COMM 100

Quantitative Reasoning: MATH 113. The Math Placement Test is required to take MATH 113. 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, 333; 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, 371, 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; GCH 325; 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, PHYS 160/161

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; PROV 105; 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: CS 112

Synthesis: CS 306