

**GEORGE MASON UNIVERSITY**  
**VOLGENAU SCHOOL OF ENGINEERING**  
**B.S. DEGREE IN BIOENGINEERING (BIOMEDICAL SIGNALS AND SYSTEMS CONCENTRATION)**  
**(3800 Nguyen Engineering Building, 703-993-4190)**  
<http://bioengineering.gmu.edu/>  
**2016-2017 CATALOG**

	<u>Department(s) &amp; Course #(s)</u>	<u>Completed/ Grade(s)</u>	<u>Needed</u>
<b><u>MASON CORE REQUIREMENTS (21)</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)	_____	_____
g.	Social & Behavioral Science: (satisfied by completion of major requirements)	_____	_____
h.	Natural Science (satisfied by completion of major requirements)	_____	_____
i.	Global Understanding (3)	_____	_____
j.	Information Technology (satisfied by completion of major requirements)	_____	_____
k.	Synthesis (satisfied by completion of major requirements)	_____	_____

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

**BIOENGINEERING, MATHEMATICS, COMPUTER SCIENCES, AND BASIC SCIENCES (70)**

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 420 (3)	e. _____	_____
f.	BENG 491, BENG 492 (1,2)	f. _____	_____
g.	BENG 493, BENG 495 (2,1)	g. _____	_____
h.	BIOL 213 & BENG 313 (4,3)	h. _____	_____
i.	CS 112, ENGR 107 (4,2)	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. _____	_____

**Biomedical Signals and Systems Concentration (29)**

a.	CHEM 251 (4)	a. _____	_____
b.	CS 211 or CS 222 (circle choice) (3)	b. _____	_____
c.	ECON 103 (3)	c. _____	_____
d.	ECE 301 (3)	d. _____	_____
e.	PHYS 262, PHYS 263 (3,1)	e. _____	_____
f.	Twelve credits of Technical Electives chosen from the following (circle choices): BENG 341, 390, 392, 395, 406, 441, 451, 499, 525, 538; ECE 305, 410, 421, 450; ME 313 (Students may choose to substitute one of the three credit technical electives with one of the following: BIOL 305/306, CHEM 313/315, CS 310, CS 444, CS 445, NEUR 327, PSYC 372)	_____	_____

**Students may substitute CHEM 211/213 - General Chemistry and CHEM 212/214 - General Chemistry for PHYS 262 - University Physics III, PHYS 263 - University Physics III Laboratory, and CHEM 251 - General Chemistry for Engineers.**

**Students must complete each BENG, BIOL, ECE and ENGR course presented as part of the required credits for the degree with a grade of C or better.**

**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 2016-2017 Catalog; the University Catalog is the official reference for program requirements.

## Course Lists (Bioengineering, Biomedical Signals and Systems)

### Mason Core 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 MATH 113. See this web site for more information: [http://math.gmu.edu/placement\\_test.php](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: ECON 103

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

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: CS 112 and ENGR 107

Synthesis: BENG 492 and 493