



Program Approval Form

For approval of new programs and deletions or modifications to an existing program.

Action Requested:

Create New (SCHEV approval required except for minors)
 Inactivate Existing
 Modify Existing (check **ALL** that apply)
 Title (SCHEV approval required except for minors)
 Concentration (Choose one): Add Delete Modify
 Degree Requirements
 Admission Standards/ Application Requirements
 Other Changes: _____

Type (Check one):

B.A. B.S. Minor
 Master's
 Ph.D.
 Undergraduate Certificate*
 Graduate Certificate*
 Bachelor's/Accelerated Master's Other: _____

College/School: Volgenau School of Engineering **Department:** Department of Bioengineering
Submitted by: Laurence Bray **Ext:** 2218 **Email:** Lbray2@gmu.edu

Effective Term: Fall **Please note:** For students to be admitted to a new degree, minor, certificate or concentration, the program must be fully approved, entered into Banner, and published in the University Catalog.

Justification: (attach separate document if necessary)

These changes are for the BHI concentration under the BS degree in Bioengineering

Program Title: (Required)

Title must identify subject matter. Do not include name of college/school/dept.

Concentration(s):

Admissions Standards / Application Requirements:

(Required only if different from those listed in the University Catalog)

Degree Requirements:

Consult University Catalog for models, attach separate document if necessary using track changes for modifications

Existing	New/Modified
Bioengineering, BS	
Bioengineering Healthcare Informatics	
Chemistry Choose one of the following: 4 CHEM 251 General Chemistry for Engineers (Mason Core) CHEM 211 & CHEM 213 General Chemistry I (Mason Core) and General Chemistry Laboratory I (Mason Core)	Chemistry Choose one of the following: 3-4 CHEM 251 General Chemistry for Engineers (Mason Core) 4 CHEM 211 & CHEM 213 General Chemistry I (Mason Core) and General Chemistry Laboratory I (Mason Core) 4 BENG 201 Introduction to Bimolecular Engineering 3
Bioengineering Core BENG 492 Senior Advanced Design Project I (Mason Core) 2 BENG 493 RS: Senior Advanced Design Project II (Mason Core) 2	Bioengineering Core BENG 492 Senior Advanced Design Project I (Mason Core) 3 BENG 493 RS: Senior Advanced Design Project II (Mason Core) 3
Biology BIOL 213 Cell Structure and Function (Mason Core) 4 credits	Biology BIOL 213 Cell Structure and Function (Mason Core) 4 credits OR BENG 213 Introduction to Biocellular Engineering 3 credits

Technical Electives

Select 9 credits from the following: 9

BENG 341 3	Introduction to Biomaterials	
BENG 390 Fabrication	Engineering Design and	3
BENG 392 1	Engineering Design Studio	
BENG 395 Bioengineering	RS: Mentored Research in	1-3
BENG 406 3	Introduction to Biomechanics	
BENG 421 Engineering	Introduction to Tissue	3
BENG 437 3	Medical Image Processing	
BENG 441 3	Nanotechnology in Health	
BENG 451 Entrepreneurship in Bioengineering	Translation and	3
BENG 499 Bioengineering	Special Topics in	4
BENG 525	Neural Engineering	3
BENG 538	Medical Imaging	3
BENG 541	Biomaterials	3
BENG 550 3	Advanced Biomechanics	
ECE 305	Electromagnetic Theory	3
ECE 350	Embedded Systems and Hardware Interfaces	3
ECE 370	Robot Design	3
ECE 410	Applications of Discrete-Time Signal Processing	3
ECE 421	Classical Systems and Control Theory	3
ECE 450	Introduction to Robotics	3
ME 313	Material Science	3
Students may choose to substitute one of the technical electives with one of the following:		
BIOL 305 & BIOL 306	Biology of Microorganisms and Biology of Microorganisms Laboratory	4
CHEM 313 & CHEM 315	Organic Chemistry I and Organic Chemistry Lab I	5
CS 310	Data Structures	3
CS 444	Introduction to Computational Biology	3
CS 445	Computational Methods for Genomics	3

Technical Electives

Select 9 credits from the following: 9

BENG 327	Cellular, Neurophysiological, and Pharmacological Neuroscience	3
BENG 341	Introduction to Biomaterials	3
BENG 390	Engineering Design and Fabrication	3
BENG 392	Engineering Design Studio	1
BENG 395 Bioengineering	RS: Mentored Research in	1-3
BENG 406	Introduction to Biomechanics	3
BENG 417	Bioengineering World Health	3
BENG 421	Introduction to Tissue Engineering	3
BENG 429	Mason-Inova Applied Technologies	3
BENG 437	Medical Image Processing	3
BENG 441	Nanotechnology in Health	3
BENG 451 Bioengineering	Translation and Entrepreneurship in	3
BENG 499	Special Topics in Bioengineering	4
BENG 525	Neural Engineering	3
BENG 538	Medical Imaging	3
BENG 541	Biomaterials	3
BENG 550	Advanced Biomechanics	3
Students may choose to substitute one of the technical electives with one of the following:		
ECE 305	Electromagnetic Theory	3
ECE 350	Embedded Systems and Hardware Interfaces	3
ECE 370	Robot Design	3
ECE 410	Applications of Discrete-Time Signal Processing	3
ECE 421	Classical Systems and Control Theory	3
ECE 450	Introduction to Robotics	3
ME 313	Material Science	3
CS 310	Data Structures	3
CS 444	Introduction to Computational Biology	3
CS 445	Computational Methods for Genomics	3
Students must select one of the technical electives from the following:		
BIOL 305 & BIOL 306	Biology of Microorganisms and Biology of Microorganisms Laboratory	4
BIOL 311	General Genetics	4
BIOL 483 or CHEM 463	General Biochemistry	


NEUR 327 Cellular, Neurophysiological, and Pharmacological Neuroscience 3	4
PSYC 372 Physiological Psychology 3	CHEM 313 & CHEM 315 Organic Chemistry I and Organic Chemistry Lab I 5 PSYC 372 Physiological Psychology 3
122	122-124

Courses offered via distance:
(if applicable)

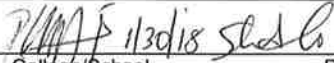
TOTAL CREDITS REQUIRED:

*For Certificates Only: Indicate whether students are able to pursue on a Full-time basis Part-time basis

Approval Signatures


 Department _____

 1/29/18 Date


 College/School _____

 1/30/15 Date

If this program may impact another unit or is in collaboration with another unit at Mason, the originating department must circulate this proposal for review by those units and obtain the necessary signatures prior to submission. Failure to do so will delay action on this proposal.

Unit Name	Unit Approval Name	Unit Approver's Signature	Date

For Undergraduate Programs only

Undergraduate Council Member _____

 Provost Office _____

 Undergraduate Council Approval Date _____

For Graduate Programs Only

Graduate Council Member _____

 Provost Office _____

 Graduate Council Approval Date _____

For Registrar Office's Use Only: Received _____ Banner _____ Catalog _____ revised 9/2/2016