Bioengineering Undergraduate Curriculum
Bioengineering Health Care Informatics (BHI)

The BHI concentration focuses on the management, analysis and visualization of data related to biomedical and healthcare applications. **Total: 122 Credit Hours**

Semester 1
MATH 113 Analytic Geom & Calc I	4
ENGR 107 Intro to Engineering	2
CS 112 Intro to Computer Programming	4
Mason Core[1]	3
ECON 103 or PSYC 100 or SOCI 101	3
	16

Semester 2
MATH 114 Analytic Geom. & Calc. II	4
PHYS 160 Univ Physics I	3
PHYS 161 Univ Physics I Lab	1
BENG 101 Intro to Bioengineering	3
CHEM 211+213 **OR**	
CHEM 251 Gen. Chem. For Engr.	4
	15

Semester 3
MATH 213 Analytic Geom. & Calc. III	3
MATH 203 Linear Algebra[2]	3
PHYS 260 University Physics II	3
PHYS 261 University Physics II Lab	1
BIOL 213 Cell Structure and Function	4
Mason Core[1]	3
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Semester 4
MATH 214 Elem. Differential Equations	3
BENG 220 Physical Bases of Biomed. Syst.	3
BENG 313 Physiology for Engineers	3
HAP 301 Healthcare Delivery	3
HAP 360 Intro to Health Inform. Systems	3
	15

Semester 5
BENG 320 Bioengineering Signals & Sys.	3
BENG 380 Intro to Circuits & Electronics	3
BENG 381 Circuits and Electronics Lab	1
CS 222 or CS 211	3
IT 214 Database Fundamentals[3] **OR**	
HAP 361 Health Databases	3
Mason Core[1]	3
	16 .

Semester 6
BENG 301 BE Measurements	3
BENG 302 BE Measurements Lab	1
BENG 304 Model. Control of Physiol. Sys.	3
STAT 344 Prob & Statistics for Engr.	3
BENG 322 Health Data Challenges **OR**	
HAP 436 Electr.Health Data in Proc. Impr.	3
Mason Core[1]	3
	16

Semester 7
BENG 420 Bioinformatics for Engineers	3
BENG 491 BE Senior Seminar I	1
BENG 492 Senior Adv. Design Project I	2
Technical Elective[4]	3
Mason Core[1]	3
ENGH 302 Advanced Composition	3
	15

Semester 8
BENG 495 BE Senior Seminar II	1
BENG 493 Senior Adv. Design Project II	2
Technical Elective[4]	3
Technical Elective[4]	3
Mason Core[1]	3
	12

[1] http://masoncore.gmu.edu Mason Core Categories: One course from each: Oral Communication, ENGH 101, Arts, Global Understanding, Literature, Western Civilization/World History. ENGH101 and Mason Core Literature have to be completed before taking ENGH 302.

[2] All bioengineers will be required to register for a specific section of MATH 203 including a 1-hour recitation with MATLAB applications.

[3] To sign up for IT 214 please request an override with the IST department. The Override Request Form can be found on their webpage: https://ist.gmu.edu/students/current-students/registering-for-classes/registration-errors-and-overrides/

[4] Students choose from sets of approved technical electives, including one of the Technical Electives from an approved life science course (See page 18 in the student guide for details).

Advising: Students are required to see the Bioengineering academic advisor prior to course registration each semester. Mason students interested in Bioengineering who have not declared a major, or are considering transferring, should contact the Bioengineering Program Office.