# Bioengineering Undergraduate Curriculum

## Biomedical Signals and Systems Concentration (BMSS)

### Semester 1
- **MATH 113** Analytic Geom & Calc I  **4**
- **ENGR 107** Intro to Engineering  **2**
- **CS 112** Intro to Computer Programming  **4**
- **ENGH 101** Composition  **3**
- **ECON 103** Cont. Microecon. Principles  **3**

### 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**
- **Literature Elective**  **3**

### Semester 3
- **MATH 213** Analytic Geom. & Calc. III  **3**
- **MATH 203** Linear Algebra  **3**
- **PHYS 260** University Physics II  **3**
- **PHYS 261** University Physics II Lab  **1**
- **CHEM 251** General Chem. for Engr.  **4**
- **Global Understanding Elective**  **3**

### Semester 4
- **MATH 214** Elem. Differential Equations  **3**
- **BENG 220** Physical Bases of Biomed. Syst  **3**
- **BIOL 213** Cell Structure and Function  **4**
- **PHYS 262** Univ Physics III  **3**
- **PHYS 263** Univ Physics III Lab  **1**

### Semester 5
- **BENG 320** Bioengineering Signals & Sys.  **3**
- **BENG 380** Intro to Circuits & Electronics  **3**
- **BENG 381** Circuits and Electronics Lab  **1**
- **BENG 313** Physiology for Engineers  **3**
- **CS 222** Comp. Prog. for Engineers OR CS 211 Obj. Oriented Programming  **3**
- **Fine Arts Elective**  **3**

### Semester 6
- **STAT 344** Prob & Statistics for Engr  **3**
- **BENG 301** BE Measurements  **3**
- **BENG 302** BE Measurements Lab  **1**
- **BENG 304** Model. Control of Physiol. Sys  **3**
- **ECE 301** Digital Electronics  **3**
- **COMM 100** Public Speaking  **3**

### Semester 7
- **BENG 491** BE Senior Seminar I  **1**
- **BENG 425** Assist. Control Biomed. Sys  **3**
- **BENG 420** Bioinformatics for Engineers  **3**
- **BENG 492** Senior Adv. Design Project I  **2**
- **Technical Elective**  **3**
- **ENGH 302** Advanced Composition  **3**

### Semester 8
- **BENG 495** BE Senior Seminar II  **1**
- **Technical Elective**  **3**
- **BENG 493** Senior Adv. Design Project II  **2**
- **OR HIST 125** Intro to World History  **3**

* Students interested in Medical School may substitute CHEM 211 and 212 General Chemistry (8) for PHYS 262, PHYS 263, and CHEM 251. Such students are encouraged to see the university's premedical advisor to determine any additional courses that they should consider.

** Students select from lists of general education courses (Mason Core) which are university approved to fulfill requirements in literature, global education, and fine arts.

**Advising:** All Bioengineering students are assigned to a faculty member, who serves as an academic advisor. Students are required to see their advisor prior to course registration each semester. GMU students interested in Bioengineering who have not declared a major or are considering transferring should contact the Bioengineering Program Office.

The VOLGENAU SCHOOL of ENGINEERING – December 2014