Biological Engineering / German Degree Guide

Fall Semester Year 1
1  GNEG 1111 Introduction to ENGR I
3  ENGL 1013 Composition I
3  CHEM 1103 University Chemistry I
4  MATH 2554 Calculus I
4  PHYS 2054 University Physics I

15 Semester hours

Summer School Session I
3  GERM 2003 Intermediate German I*
3  MEEG 2003 Statics
6 Semester Hours

Fall Semester Year 2
2  BENG 2632 Biological Engr Design Studio
4  MATH 2574 Calculus III
4  PHYS 2074 University Physics II
3  GEOG 2003 World Regional Geography
3  GERM 3003 Advanced German I

16 Semester hours

Fall Semester Year 3
3  BENG 3733 Transport Phenomena in Biological Systems
3  BENG 3653 Global Bio-Energy ENGR
4  CHEM 3603/3601L Organic Chemistry I w/Lab
3  CVEG 3213, Hydraulics (Or MEEG 3503 or CHEG 2133)
3  GERM 3013 Introduction to Literature

16 Semester hours

YEAR 4 ABROAD
Study Abroad Semester
3  Engineering Elective **
3  GERM 4213 German Civilization
3  Fine Arts Elective
3  Technical/Science Elective **

12 Semester Hours

Fall Semester Year 5
3  BENG 4813 Senior Biological ENGR Design I
3  BENG 4743 Food and Bio-Product Systems Engineering
3  BENG 4933 Sustainable Watershed Engineering
3  HIST 1113 World Civilizations I
3  GERM 3000+ Elective

15 Semester hours

Spring Semester Year 1
1  GNEG 1121 Introduction to Engineering II
3  ENGL 1023 Composition II
4  CHEM 1123/1121L University Chemistry II
4  MATH 2564 Calculus II
3  HIST 2003, HIST2013, or PLSC 2003

15 Semester hours

Summer School Session II
3  GERM 2013 Intermediate German II
4  BIOL 1543/1541L Principles of Biology and Lab
7 Semester Hours

Spring Semester Year 2
3  BENG 2643 Biological Engineering Methods
4  MATH 3404 Differential Equations
4  BIOL 2013/2011L General Microbiology w/Lab
3  MEEG 2403 Thermodynamics (or CHEG 2133)
3  GERM 4003 Advanced German II

17 Semester hours

Spring Semester Year 3
3  BENG 3723 Unit Operations in Biological Engr
3  BENG3113 Measurements and Controls for Biol.:
4  CHEM 3613/3611L Organic Chemistry II w/Lab
3  CVEG 3223 Hydrology
3  GERM 3033 Conversation

16 Semester hours

International Internship Abroad
Internship in German-Speaking Country
3  GERM 3000+ Elective

3 Semester Hours

Fall Semester Year 5
3  BENG 4822 Senior Biological Engineering Design I
3  BENG 4663 Sustainable Biosystems Design
3  BIOL 3863 General Ecology
3  HIST 1123 World Civilizations II
3  ELEG 3903 Electric Circuits and Machines
3  PHIL 2003 or WLIT 1113

17 Semester hours

155 Total Hours

* This is based on the assumption that the student already has credit for GERM 1003 and 1013. Otherwise the student will need to take those classes as well, adding 6 extra hours to their studies.

** One of these courses must be taken in German
Biomedical Engineering / German Degree Guide

### Fall Semester Year 1
1. GENG 1111 Intro to ENGR I
2. MATH 2554 Calculus I
3. CHEM 1103 University Chemistry I
4. PHYS 2054 University Physics I
5. ENGL 1013 Composition I
**15 Semester Hours**

### Spring Semester Year 1
1. GENG 1121 Intro to ENGR II
2. MATH 2564 Calculus II
3. CHEM 1123/1121L University Chemistry II
4. PHYS 2074 University Physics II
5. ENGL 1023 Composition II
**16 Semester Hours**

### Summer School Session I
1. GERM 2003 Intermediate German I*
2. CHEM 3603/3601L Organic Chemistry I
**7 Semester Hours**

### Fall Semester Year 2
1. BMEG 2613 Intro to BME
2. BIOL 1543/1541L Principles of Biology
3. MATH 2574 Calculus III
4. GEOS 2003 World Regional Geography
5. GERM 3003 Advanced German I
**17 Semester Hours**

### Spring Semester Year 2
1. BMEG 3634 Biomaterials
2. BIOL 2213 Human Physiology/BIOL 2211L Lab
3. CHEG 2313 Thermodynamics of Single Component Systems
4. CHEG 2133 OR MEEG 3503 Fluid Mechanics
5. BMEG 3124 Biomedical Signals and Systems
6. MEEG 2403 Thermodynamics
**17 Semester Hours**

### Fall Semester Year 3
1. BMEG 3653 Biomed. Model. & Num. Methods
2. CHEG 2133 OR MEEG 3503 Fluid Mechanics
3. BMEG 3824 Biomedical Instrumentation
4. CHEG 3603/3601L Organic Chemistry II
5. CHEG 2003 Intermediate German II
6. GERM 4003 Advanced German II
**17 Semester Hours**

### Spring Semester Year 3
1. BMEG 4813 Biomedical Engineering Design I
2. BMEG 4623 Biomedical Transport Phenomena
3. HIST 1113 World Civilizations I
4. BMEG Elective
5. BMEG Elective
6. HIST 1123 World Civilizations II
7. PHIL 2003 or WLIT 1113
**15 Semester Hours**

### YEAR 4 ABROAD

#### Study Abroad Semester
1. GERM 4213 German Civilization
2. GERM 3000+ Language/Humanities Course
3. Fine Arts Elective
4. Science Elective **
**12 Semester Hours**

### International Internship Abroad
**Internship in German-Speaking Country**
1. GERM 3000+ Elective
**3 Semester Hours**

### Fall Semester Year 5
1. BMEG 4823 Biomed ENGR Design II
2. BMEG Elective
3. HIST 1113 World Civilizations I
4. BMEG Elective
5. BMEG Elective
6. PHIL 2003 or WLIT 1113
**15 Semester Hours**

### Summer School Session II
1. GERM 2013 Intermediate German II
2. CHEM 361336/11L Organic Chemistry II
**7 Semester Hours**

### Spring Semester Year 5
1. BMEG 4623 Biomedical Transport Phenomena
2. MEEG 2403 Thermodynamics
3. HIST 1123 World Civilizations II
4. HIST 2003, HIST2013, or PLSC 2003
5. PHIL 2003 or WLIT 1113
**15 Semester Hours**

**155 Total Hours**

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** Must be taken in German