

Dual Degree in BME and a Modern Language

The BME program offers a five-year dual degree program with the Department of Modern and Classical Languages in French, German, Italian and Spanish. Students with a strong background in a modern language can usually fulfill the dual degree program in less than five years. Supplemented with a study abroad experience, the dual degree program is an excellent preparation for work in the global economy. See the following pages for a description of the course of study.



Bachelor of Science in Engineering in Biomedical Engineering & French¹

FRESHMAN (30)	Course	Credits
	CHEM 127 Q - General Chemistry	4
	MATH 115Q - Calculus I	4
	CSE 123C - Introduction to Computing	2
	ENGL 110 or 111 - Seminar in Academic Writing or Seminar in Writing Through Literature	4
	ENGR 100 - Orientation to Engineering	1
	CHEM 128Q - General Chemistry	4
	MATH 116Q - Calculus II	4
	BIOL 107 - Principles of Biology	4
	ENGR 166 - Foundations of Engineering	3
SOPHOMORE	PHYS 151Q - Physics for Engineers I	4
	MATH 210Q - Multivariable Calculus	4
	CE 211 - Applied Mechanics I	3
	BME 211 - Intro to Biomedical Engineering	3
	PHYS 152Q - Physics for Engineers II	4
	MATH 211 - Elementary Differential Equations	3
	BME 251 - Biosystem Analysis	3
	ECE 210W - Electrical Circuits	4
	FREN164	3
JUNIOR (34)	BME 261W - Biomechanics	4
	PNB 264 - Human Physiology and Anatomy	4
	CHEM 243 - Organic Chemistry	3
	MMAT 201 - Material Science & Engineering I or MMAT 243	3
	BME 252 - Biomedical Engineering Measurements	4
	BME 271 - Biomaterials (Study Abroad)	4
	Engineering Elective (Study Abroad)	3
	STAT 220Q - Statistical Methods (Calculus Level) (Study Abroad)	3
	Life Science Elective (Study Abroad)	3
	200 FREN Class	3
SENIOR (36)	Biomedical Engineering Elective	3
	Engineering Elective	3
	200 Level FREN Class	3
	Category 1 CLAS ARTS (Not in PHIL or in FREN)	3
	PHIL 104 - Philosophy & Ethics	3
	FREN 261W (CLAS Category 1 Literature)	3
	Biomedical Engineering Elective	3
	Engineering Elective	3
	FREN 262W	3
	Category 2 (Social Sciences)	3
	Category 4 (Multiculturalism)	3
	FREN 211 (CLAS Category 4 International)	3
5th Year (33)	BME 290 - Biomedical Engineering Design I	3
	BME 221 - Biochemical Engineering	3
	FREN 268W	3
	FREN 269	3
	Category 2 (Social Sciences; not same department as in Senior Year)	3
	BME 291 - Biomedical Engineering Design II	3
	Engineering Elective	3
	200 Level Language Class (either FREN 257 or 258)	3
	200 Level FREN Class	3
	200 Level FREN Class	3
	Category 1 CLAS History	3

¹ With 3 Years of HS Foreign Language. Study Abroad can be either semester in the junior year. Total Credit Hours: 164

Bachelor of Science in Engineering in Biomedical Engineering & French²

Course	Credits
FRESHMAN (36)	
CHEM 127 Q - General Chemistry	4
MATH 115Q - Calculus I	4
CSE 123C - Introduction to Computing	2
ENGL 110 or 111 - Seminar in Academic Writing or Seminar in Writing Through Literature	4
ENGR 100 - Orientation to Engineering	1
FREN 161	3
CHEM 128Q - General Chemistry	4
MATH 116Q - Calculus II	4
BIOL 107 - Principles of Biology	4
ENGR 166 - Foundations of Engineering	3
FREN 162	3
SOPHOMORE (34)	
PHYS 151Q - Physics for Engineers I	4
MATH 210Q - Multivariable Calculus	4
CE 211 - Applied Mechanics I	3
BME 211 - Intro to Biomedical Engineering	3
FREN 163	3
PHYS 152Q - Physics for Engineers II	4
MATH 211 - Elementary Differential Equations	3
BME 251 - Biosystem Analysis	3
ECE 210W - Electrical Circuits	4
FREN 164	3
JUNIOR (34)	
BME 261W - Biomechanics	4
PNB 264 - Human Physiology and Anatomy	4
CHEM 243 - Organic Chemistry	3
MMAT 201 - Material Science & Engineering I or MMAT 243	3
BME 252 - Biomedical Engineering Measurements	4
BME 271 - Biomaterials (Study Abroad)	4
Engineering Elective (Study Abroad)	3
STAT 220Q - Statistical Methods (Calculus Level) (Study Abroad)	3
Life Science Elective (Study Abroad)	3
200 Level FREN Class	3
SENIOR (36)	
Biomedical Engineering Elective	3
Engineering Elective	3
200 Level FREN Class	3
Category 1 CLAS ARTS (Not in PHIL or in FREN)	3
PHIL 104 - Philosophy & Ethics	3
FREN 261W (CLAS Category 1 Literature)	3
Biomedical Engineering Elective	3
Engineering Elective	3
FREN 262W	3
Category 2 (Social Sciences)	3
Category 4 (Multiculturalism)	3
FREN 211 (CLAS Category 4 International)	3
5th Year (33)	
BME 290 - Biomedical Engineering Design I	3
BME 221 - Biochemical Engineering	3
FREN 268W	3
FREN 269	3
Category 2 (Social Sciences; not same department as in Senior Year)	3
BME 291 - Biomedical Engineering Design II	3
Engineering Elective	3
200 Level Language Class (either FREN 257 or 258)	3
200 Level FREN Class	3
200 Level FREN Class	3
Category 1 CLAS History	3

² Without 3 Years of HS Foreign Language. Study Abroad can be either semester in the junior year. Total Credit Hours: 173

Bachelor of Science in Engineering in Biomedical Engineering & German³

FRESHMAN (30)	Course	Credits
	CHEM 127 Q - General Chemistry	4
	MATH 115Q - Calculus I	4
	CSE 123C - Introduction to Computing	2
	ENGL 110 or 111 - Seminar in Academic Writing or Seminar in Writing Through Literature	4
	ENGR 100 - Orientation to Engineering	1
	CHEM 128Q - General Chemistry	4
	MATH 116Q - Calculus II	4
	BIOL 107 - Principles of Biology	4
	ENGR 166 - Foundations of Engineering	3
SOPHOMORE	PHYS 151Q - Physics for Engineers I	4
	MATH 210Q - Multivariable Calculus	4
	CE 211 - Applied Mechanics I	3
	BME 211 - Intro to Biomedical Engineering	3
	PHYS 152Q - Physics for Engineers II	4
	MATH 211 - Elementary Differential Equations	3
	BME 251 - Biosystem Analysis	3
	ECE 210W - Electrical Circuits	4
	GERM 134	3
JUNIOR (34)	BME 261W - Biomechanics	4
	PNB 264 - Human Physiology and Anatomy	4
	CHEM 243 - Organic Chemistry	3
	MMAT 201 - Material Science & Engineering I or MMAT 243	3
	BME 252 - Biomedical Engineering Measurements	4
	BME 271 - Biomaterials (Study Abroad)	4
	Engineering Elective (Study Abroad)	3
	STAT 220Q - Statistical Methods (Calculus Level) (Study Abroad)	3
	Life Science Elective (Study Abroad)	3
	200 GERM Class	3
SENIOR (33)	Biomedical Engineering Elective	3
	Engineering Elective	3
	Category 1 (World Cultures; not in GERM)	3
	PHIL 104 - Philosophy & Ethics	3
	GERM 233	3
	Biomedical Engineering Elective	3
	Engineering Elective	3
	GERM 255W (CLAS Category 1 Literature)	3
	Category 2 (Social Sciences)	3
	Category 4 (Multiculturalism) GERM 251	3
	GERM 281W (CLAS Category 1 Arts and Category 4 International)	3
5 th Year (36)	BME 290 - Biomedical Engineering Design I	3
	BME 221 - Biochemical Engineering	3
	GERM 234	3
	GERM 246	3
	200 GERM Category 2	3
	Category 2 (Social Sciences; not same department as in Senior Year)	3
	BME 291 - Biomedical Engineering Design II	3
	Engineering Elective	3
	200 GERM Category 2	3
	200 GERM Category 4	3
	Category 1 CLAS History	3

³ With 3 Years of HS Foreign Language. Study Abroad can be either semester in the junior year. Total Credit Hours: 161

Bachelor of Science in Engineering in Biomedical Engineering & German⁴

Course	Credits	
FRESHMAN (36)	CHEM 127 Q - General Chemistry	4
	MATH 115Q - Calculus I	4
	CSE 123C - Introduction to Computing	2
	ENGL 110 or 111 - Seminar in Academic Writing or Seminar in Writing Through Literature	4
	ENGR 100 - Orientation to Engineering	1
	GERM 131	3
	CHEM 128Q - General Chemistry	4
	MATH 116Q - Calculus II	4
	BIOL 107 - Principles of Biology	4
	ENGR 166 - Foundations of Engineering	3
GERM 132	3	
SOPHOMORE (34)	PHYS 151Q - Physics for Engineers I	4
	MATH 210Q - Multivariable Calculus	4
	CE 211 - Applied Mechanics I	3
	BME 211 - Intro to Biomedical Engineering	3
	GERM 133	3
	PHYS 152Q - Physics for Engineers II	4
	MATH 211 - Elementary Differential Equations	3
	BME 251 - Biosystem Analysis	3
	ECE 210W - Electrical Circuits	4
GERM 134	3	
JUNIOR (34)	BME 261W - Biomechanics	4
	PNB 264 - Human Physiology and Anatomy	4
	CHEM 243 - Organic Chemistry	3
	MMAT 201 - Material Science & Engineering I or MMAT 243	3
	BME 252 - Biomedical Engineering Measurements	4
	BME 271 - Biomaterials (Study Abroad)	4
	Engineering Elective (Study Abroad)	3
	STAT 220Q - Statistical Methods (Calculus Level) (Study Abroad)	3
Life Science Elective (Study Abroad)	3	
200 Level GERM Class	3	
SENIOR (33)	Biomedical Engineering Elective	3
	Engineering Elective	3
	Category 1 (World Cultures; not in GERM)	3
	PHIL 104 - Philosophy & Ethics	3
	GERM 233	3
	Biomedical Engineering Elective	3
	Engineering Elective	3
	GERM 255W (CLAS Category 1 Literature)	3
	Category 2 (Social Sciences)	3
Category 4 (Multiculturalism) GERM 251	3	
GERM 281W (CLAS Category 1 Arts and Category 4 International)	3	
5th Year (36)	BME 290 - Biomedical Engineering Design I	3
	BME 221 - Biochemical Engineering	3
	GERM 234	3
	GERM 246	3
	200 GERM Category 2	3
	Category 2 (Social Sciences; not same department as in Senior Year)	3
	BME 291 - Biomedical Engineering Design II	3
	Engineering Elective	3
	200 GERM Category 2	3
200 GERM Category 4	3	
Category 1 CLAS History	3	
BME 291 - Biomedical Engineering Design II	3	

⁴ Without 3 Years of HS Foreign Language. Study Abroad can be either semester in the junior year. Total Credit Hours: 170

Bachelor of Science in Engineering in Biomedical Engineering & Italian⁵

FRESHMAN (30)	Course	Credits
	CHEM 127 Q - General Chemistry	4
	MATH 115Q - Calculus I	4
	CSE 123C - Introduction to Computing	2
	ENGL 110 or 111 - Seminar in Academic Writing or Seminar in Writing Through Literature	4
	ENGR 100 - Orientation to Engineering	1
	CHEM 128Q - General Chemistry	4
	MATH 116Q - Calculus II	4
	BIOL 107 - Principles of Biology	4
	ENGR 166 - Foundations of Engineering	3
	PHYS 151Q - Physics for Engineers I	4
	MATH 210Q - Multivariable Calculus	4
	CE 211 - Applied Mechanics I	3
	BME 211 - Intro to Biomedical Engineering	3
	PHYS 152Q - Physics for Engineers II	4
	MATH 211 - Elementary Differential Equations	3
	BME 251 - Biosystem Analysis	3
	ECE 210W - Electrical Circuits	4
	ILCS148	3
	BME 261W - Biomechanics	4
	PNB 264 - Human Physiology and Anatomy	4
	CHEM 243 - Organic Chemistry	3
	MMAT 201 - Material Science & Engineering I or MMAT 243	3
	BME 252 - Biomedical Engineering Measurements	4
	BME 271 - Biomaterials (Study Abroad)	4
	Engineering Elective (Study Abroad)	3
	STAT 220Q - Statistical Methods (Calculus Level) (Study Abroad)	3
	Life Science Elective (Study Abroad)	3
	200 ILCS Class	3
	Biomedical Engineering Elective	3
	Engineering Elective	3
	Category 1 (World Cultures; not in ILCS)	3
	PHIL 104 - Philosophy & Ethics	3
	ILCS 255W (CLAS Category 1 Literature)	3
	Biomedical Engineering Elective	3
	Engineering Elective	3
	200 ILCS Class	3
	Category 2 (Social Sciences)	3
	Category 4 (Multiculturalism)	3
	ILCS260W (CLAS Category 1 Arts and Category 4 International)	3
	BME 290 - Biomedical Engineering Design I	3
	BME 221 - Biochemical Engineering	3
	200 ILCS Class	3
	200 ILCS Class	3
	200 ILCS Class	3
	Category 2 (Social Sciences; not same department as in Senior Year)	3
	BME 291 - Biomedical Engineering Design II	3
	Engineering Elective	3
	200 ILCS Class	3
	200 ILCS Class	3
	200 ILCS Class	3
	Category 1 CLAS History	3

⁵ With 3 Years of HS Foreign Language. Study Abroad can be either semester in the junior year. Total Credit Hours: 164

Bachelor of Science in Engineering in Biomedical Engineering & Italian⁶

Course	Credits	
FRESHMAN (36)	CHEM 127 Q - General Chemistry	4
	MATH 115Q - Calculus I	4
	CSE 123C - Introduction to Computing	2
	ENGL 110 or 111 - Seminar in Academic Writing or Seminar in Writing Through Literature	4
	ENGR 100 - Orientation to Engineering	1
	ILCS145	3
	CHEM 128Q - General Chemistry	4
	MATH 116Q - Calculus II	4
	BIOL 107 - Principles of Biology	4
	ENGR 166 - Foundations of Engineering	3
ILCS 146	3	
SOPHOMORE (34)	PHYS 151Q - Physics for Engineers I	4
	MATH 210Q - Multivariable Calculus	4
	CE 211 - Applied Mechanics I	3
	BME 211 - Intro to Biomedical Engineering	3
	ILCS 147	3
	PHYS 152Q - Physics for Engineers II	4
	MATH 211 - Elementary Differential Equations	3
	BME 251 - Biosystem Analysis	3
	ECE 210W - Electrical Circuits	4
ILCS 148	3	
JUNIOR (34)	BME 261W - Biomechanics	4
	PNB 264 - Human Physiology and Anatomy	4
	CHEM 243 - Organic Chemistry	3
	MMAT 201 - Material Science & Engineering I or MMAT 243	3
	BME 252 - Biomedical Engineering Measurements	4
	BME 271 - Biomaterials (Study Abroad)	4
	Engineering Elective (Study Abroad)	3
	STAT 220Q - Statistical Methods (Calculus Level) (Study Abroad)	3
Life Science Elective (Study Abroad)	3	
200 Level ILCS Class	3	
SENIOR (33)	Biomedical Engineering Elective	3
	Engineering Elective	3
	Category 1 (World Cultures; not in ILCS)	3
	PHIL 104 - Philosophy & Ethics	3
	ILCS 255W (CLAS Category 1 Literature)	3
	Biomedical Engineering Elective	3
	Engineering Elective	3
	200 ILCS Class	3
	Category 2 (Social Sciences)	3
Category 4 (Multiculturalism)	3	
ILCS260W (CLAS Category 1 Arts and Category 4 International)	3	
5th Year (36)	BME 290 - Biomedical Engineering Design I	3
	BME 221 - Biochemical Engineering	3
	200 ILCS Class	3
	200 ILCS Class	3
	200 ILCS Class	3
	Category 2 (Social Sciences; not same department as in Senior Year)	3
	BME 291 - Biomedical Engineering Design II	3
	Engineering Elective	3
	200 ILCS Class	3
200 ILCS Class	3	
200 ILCS Class	3	
Category 1 CLAS History	3	

⁶ Without 3 Years of HS Foreign Language. Study Abroad can be either semester in the junior year. Total Credit Hours: 173

Bachelor of Science in Engineering in Biomedical Engineering & Spanish⁷

FRESHMAN (30)	Course	Credits
	CHEM 127 Q - General Chemistry	4
	MATH 115Q - Calculus I	4
	CSE 123C - Introduction to Computing	2
	ENGL 110 or 111 - Seminar in Academic Writing or Seminar in Writing Through Literature	4
	ENGR 100 - Orientation to Engineering	1
	CHEM 128Q - General Chemistry	4
	MATH 116Q - Calculus II	4
	BIOL 107 - Principles of Biology	4
	ENGR 166 - Foundations of Engineering	3
	PHYS 151Q - Physics for Engineers I	4
	MATH 210Q - Multivariable Calculus	4
	CE 211 - Applied Mechanics I	3
	BME 211 - Intro to Biomedical Engineering	3
	PHYS 152Q - Physics for Engineers II	4
	MATH 211 - Elementary Differential Equations	3
	BME 251 - Biosystem Analysis	3
	ECE 210W - Electrical Circuits	4
	SPAN184	3
	BME 261W - Biomechanics	4
	PNB 264 - Human Physiology and Anatomy	4
	CHEM 243 - Organic Chemistry	3
	MMAT 201 - Material Science & Engineering I or MMAT 243	3
	BME 252 - Biomedical Engineering Measurements	4
	BME 271 - Biomaterials (Study Abroad)	4
	Engineering Elective (Study Abroad)	3
	STAT 220Q - Statistical Methods (Calculus Level) (Study Abroad)	3
	Life Science Elective (Study Abroad)	3
	200 SPAN Class	3
	Biomedical Engineering Elective	3
	Engineering Elective	3
	Category 1 (World Cultures; not in SPAN)	3
	PHIL 104 - Philosophy & Ethics	3
	SPAN 282 (CLAS Category 1 Literature)	3
	Biomedical Engineering Elective	3
	Engineering Elective	3
	SPAN291W or SPAN292W	3
	Category 2 (Social Sciences)	3
	Category 4 (Multiculturalism)	3
	SPAN 250 (CLAS Category 1 Arts and Category 4 International)	3
	BME 290 - Biomedical Engineering Design I	3
	BME 221 - Biochemical Engineering	3
	SPAN Literature Group (Not SPAN 282)	3
	SPAN Literature Group (Not SPAN 282)	3
	Category 2 (Social Sciences; not same department as in Senior Year)	3
	BME 291 - Biomedical Engineering Design II	3
	Engineering Elective	3
	SPAN Literature Group (if Taken SPAN291W and Not SPAN 282) or SPAN Culture Group (if Taken SPAN292W)	3
	SPAN Culture Group	3
	Category 1 CLAS History	3

⁷ With 3 Years of HS Foreign Language. Study Abroad can be either semester in the junior year. Total Credit Hours: 158

Bachelor of Science in Engineering in Biomedical Engineering & Spanish⁸

Course	Credits	
FRESHMAN (36)	CHEM 127 Q - General Chemistry	4
	MATH 115Q - Calculus I	4
	CSE 123C - Introduction to Computing	2
	ENGL 110 or 111 - Seminar in Academic Writing or Seminar in Writing Through Literature	4
	ENGR 100 - Orientation to Engineering	1
	SPAN181	3
	CHEM 128Q - General Chemistry	4
	MATH 116Q - Calculus II	4
	BIOL 107 - Principles of Biology	4
	ENGR 166 - Foundations of Engineering	3
SPAN 182	3	
SOPHOMORE (34)	PHYS 151Q - Physics for Engineers I	4
	MATH 210Q - Multivariable Calculus	4
	CE 211 - Applied Mechanics I	3
	BME 211 - Intro to Biomedical Engineering	3
	SPAN 183	3
	PHYS 152Q - Physics for Engineers II	4
	MATH 211 - Elementary Differential Equations	3
	BME 251 - Biosystem Analysis	3
	ECE 210W - Electrical Circuits	4
SPAN 184	3	
JUNIOR (34)	BME 261W - Biomechanics	4
	PNB 264 - Human Physiology and Anatomy	4
	CHEM 243 - Organic Chemistry	3
	MMAT 201 - Material Science & Engineering I or MMAT 243	3
	BME 252 - Biomedical Engineering Measurements	4
	BME 271 - Biomaterials (Study Abroad)	4
	Engineering Elective (Study Abroad)	3
	STAT 220Q - Statistical Methods (Calculus Level) (Study Abroad)	3
Life Science Elective (Study Abroad)	3	
200 Level SPAN Class	3	
SENIOR (33)	Biomedical Engineering Elective	3
	Engineering Elective	3
	Category 1 (World Cultures; not in SPAN)	3
	PHIL 104 - Philosophy & Ethics	3
	SPAN 282 (CLAS Category 1 Literature)	3
	Biomedical Engineering Elective	3
	Engineering Elective	3
	SPAN291W or SPAN292W	3
	Category 2 (Social Sciences)	3
Category 4 (Multiculturalism)	3	
SPAN 250 (CLAS Category 1 Arts and Category 4 International)	3	
5th Year (30)	BME 290 - Biomedical Engineering Design I	3
	BME 221 - Biochemical Engineering	3
	SPAN Literature Group (Not SPAN 282)	3
	SPAN Literature Group (Not SPAN 282)	3
	Category 2 (Social Sciences; not same department as in Senior Year)	3
	BME 291 - Biomedical Engineering Design II	3
	Engineering Elective	3
	SPAN Literature Group (if Taken SPAN291W and Not SPAN 282) or SPAN Culture Group (if Taken SPAN292W)	3
SPAN Culture Group	3	
Category 1 CLAS History	3	

⁸ Without 3 Years of HS Foreign Language. Study Abroad can be either semester in the junior year. Total Credit Hours: 167