## **BIOLOGICAL ENGINEERING** (B.S.B.E.)

Required course work includes the university requirements (see regulation J-3 (https://catalog.uidaho.edu/general-requirementsacademic-procedures/j-general-requirements-baccalaureate-degrees/)) and:

BE 341 Electronics in Biological Engineering 3 BE 361 Biotransport Processes 3 BE 441 Instrumentation and Controls 4 BE 461 Bioprocess Engineering 3 BE 478 Engineering Design I 3 BE 479 Engineering Design II 3 BE 479 Engineering Design II 3 BE 491 Senior Seminar 1 BIOL 115 Cells and the Evolution of Life 3 BIOL 115L Cells and the Evolution of Life Laboratory 1 BIOL 250 General Microbiology 3 BIOL 255 General Microbiology Lab 2 BIOL 380 Biochemistry I 4 CHEM 111 General Chemistry I Laboratory 1 CHEM 112 General Chemistry II Laboratory 1 CHEM 112 General Chemistry II Laboratory 1 CHEM 112 General Chemistry II Laboratory 1 CHEM 277 Organic Chemistry II Laboratory 1 CHEM 278 Organic Chemistry II: Lab 1 ENGR 123 First Year Engineering 2 ENGR 210 Engineering Statics 3 ENGR 320 Engineering Thermodynamics and Heat Transfer 3 ENGR 335 Engineering Fluid Mechanics 3 ENGR 350 Engineering Mechanics of Materials 3 ECON 201 Principles of Macroeconomics 3 or ECON 202 Principles of Microeconomics 3 ATH 170 Calculus II 4 MATH 175 Calculus II 4 MATH 275 Calculus III 3 MATH 310 Ordinary Differential Equations 3 PHYS 211 Engineering Physics I 3 PHYS 211 Engineering Physics I 3 PHYS 211 Engineering Physics I 3 STAT 301 Probability and Statistics 3 Technical Electives 22 Select 12 credits from any 300 or 400 level Biological Engineering	Code	Title	Hours
BE 361         Biotransport Processes         3           BE 441         Instrumentation and Controls         4           BE 461         Bioprocess Engineering         3           BE 478         Engineering Design I         3           BE 479         Engineering Design II         3           BE 491         Senior Seminar         1           BIOL 115         Cells and the Evolution of Life         3           BIOL 115L         Cells and the Evolution of Life Laboratory         1           BIOL 250         General Microbiology         3           BIOL 255         General Microbiology Lab         2           BIOL 380         Biochemistry I         4           CHEM 111         General Chemistry I         3           CHEM 111L         General Chemistry II         4           CHEM 112L         General Chemistry II         4           CHEM 277         Organic Chemistry II         3           CHEM 278         Organic Chemistry I: Lab         1           ENGR 210         Engineering Statics         3           ENGR 320         Engineering Fluid Mechanics         3           ENGR 335         Engineering Fluid Mechanics of Materials         3           ECON 201         P	BE 242	Biological Engineering Analysis and Design	3
BE 441         Instrumentation and Controls         4           BE 461         Bioprocess Engineering         3           BE 478         Engineering Design I         3           BE 479         Engineering Design II         3           BE 491         Senior Seminar         1           BIOL 115         Cells and the Evolution of Life         3           BIOL 115L         Cells and the Evolution of Life Laboratory         1           BIOL 250         General Microbiology         3           BIOL 255         General Microbiology Lab         2           BIOL 380         Biochemistry I         4           CHEM 111         General Chemistry I         3           CHEM 111L         General Chemistry I         4           CHEM 112L         General Chemistry II         4           CHEM 277         Organic Chemistry II         3           CHEM 278         Organic Chemistry I: Lab         1           ENGR 123         First Year Engineering         2           ENGR 210         Engineering Statics         3           ENGR 335         Engineering Fluid Mechanics         3           ENGR 350         Engineering Fluid Mechanics of Materials         3           ECON 201	BE 341	Electronics in Biological Engineering	3
BE 461         Bioprocess Engineering         3           BE 478         Engineering Design I         3           BE 479         Engineering Design II         3           BE 491         Senior Seminar         1           BIOL 115         Cells and the Evolution of Life         3           BIOL 115L         Cells and the Evolution of Life Laboratory         1           BIOL 250         General Microbiology         3           BIOL 255         General Microbiology Lab         2           BIOL 380         Biochemistry I         4           CHEM 111         General Chemistry I         3           CHEM 111L         General Chemistry II         4           CHEM 112L         General Chemistry II         4           CHEM 277         Organic Chemistry II         4           CHEM 278         Organic Chemistry I: Lab         1           ENGR 210         Engineering Statics         3           ENGR 210         Engineering Thermodynamics and Heat Transfer         3           ENGR 335         Engineering Fluid Mechanics         3           ENGR 350         Engineering Mechanics of Materials         3           ECON 201         Principles of Microeconomics         3           MATH 17	BE 361	Biotransport Processes	3
BE 478 Engineering Design I 3 BE 479 Engineering Design II 3 BE 491 Senior Seminar 1 BIOL 115 Cells and the Evolution of Life 3 BIOL 115L Cells and the Evolution of Life 4 BIOL 250 General Microbiology 3 BIOL 255 General Microbiology 4 BIOL 380 Biochemistry I 4 CHEM 111 General Chemistry I 4 CHEM 111L General Chemistry I Laboratory 1 CHEM 112L General Chemistry II Laboratory 1 CHEM 112 General Chemistry II Laboratory 1 CHEM 112L General Chemistry II Laboratory 1 CHEM 277 Organic Chemistry II Laboratory 1 CHEM 278 Organic Chemistry II Laboratory 1 CHEM 278 Organic Chemistry II Laboratory 1 CHEM 23 First Year Engineering 2 ENGR 210 Engineering Statics 3 ENGR 320 Engineering Thermodynamics and Heat Transfer 3 ENGR 335 Engineering Fluid Mechanics 3 ENGR 350 Engineering Mechanics of Materials 3 ECON 201 Principles of Macroeconomics 3 or ECON 202 Principles of Microeconomics 3 MATH 170 Calculus II 4 MATH 275 Calculus III 3 MATH 310 Ordinary Differential Equations 3 PHYS 211 Engineering Physics I 1 PHYS 212 Engineering Physics I 3 STAT 301 Probability and Statistics 3 Select 12 credits from any 300 or 400 level engineering or sciences	BE 441	Instrumentation and Controls	4
BE 479         Engineering Design II         3           BE 491         Senior Seminar         1           BIOL 115         Cells and the Evolution of Life         3           BIOL 115L         Cells and the Evolution of Life Laboratory         1           BIOL 250         General Microbiology         3           BIOL 255         General Microbiology Lab         2           BIOL 380         Biochemistry I         4           CHEM 111         General Chemistry I         3           CHEM 111L         General Chemistry II         4           CHEM 112L         General Chemistry II         4           CHEM 277         Organic Chemistry II         3           CHEM 278         Organic Chemistry I: Lab         1           ENGR 123         First Year Engineering         2           ENGR 210         Engineering Statics         3           ENGR 320         Engineering Thermodynamics and Heat Transfer         3           ENGR 335         Engineering Pluid Mechanics         3           ECON 201         Principles of Macroeconomics         3           MATH 170         Calculus II         4           MATH 175         Calculus II         4           MATH 310         Ordinary	BE 461	Bioprocess Engineering	3
BE 491         Senior Seminar         1           BIOL 115         Cells and the Evolution of Life         3           BIOL 115L         Cells and the Evolution of Life Laboratory         1           BIOL 250         General Microbiology         3           BIOL 255         General Microbiology Lab         2           BIOL 380         Biochemistry I         4           CHEM 111         General Chemistry I         3           CHEM 111L         General Chemistry I Laboratory         1           CHEM 112L         General Chemistry II Laboratory         1           CHEM 277         Organic Chemistry I         3           CHEM 278         Organic Chemistry I: Lab         1           ENGR 278         Organic Chemistry I: Lab         1           ENGR 210         Engineering Statics         3           ENGR 210         Engineering Statics         3           ENGR 320         Engineering Thermodynamics and Heat Transfer         3           ENGR 335         Engineering Pluid Mechanics         3           ECON 201         Principles of Macroeconomics         3           MATH 170         Calculus II         4           MATH 275         Calculus II         4           MATH 310	BE 478	Engineering Design I	3
BIOL 115 Cells and the Evolution of Life 3 BIOL 115L Cells and the Evolution of Life Laboratory 1 BIOL 250 General Microbiology 3 BIOL 255 General Microbiology Lab 2 BIOL 380 Biochemistry I 4 CHEM 111 General Chemistry I 3 CHEM 111L General Chemistry I Laboratory 1 CHEM 112L General Chemistry II 4 CHEM 112L General Chemistry II Laboratory 1 CHEM 277 Organic Chemistry II Laboratory 1 CHEM 278 Organic Chemistry I: Lab 1 ENGR 123 First Year Engineering 2 ENGR 210 Engineering Statics 3 ENGR 320 Engineering Thermodynamics and Heat Transfer 3 ENGR 320 Engineering Fluid Mechanics 3 ENGR 350 Engineering Mechanics of Materials 3 ECON 201 Principles of Macroeconomics 3 or ECON 202 Principles of Microeconomics 3 MATH 170 Calculus II 4 MATH 275 Calculus III 3 MATH 310 Ordinary Differential Equations 3 PHYS 211 Engineering Physics I 3 PHYS 211 Laboratory Physics I 1 PHYS 212 Engineering Physics II 3 STAT 301 Probability and Statistics 3 Flechnical Electives 21 Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	BE 479	Engineering Design II	3
BIOL 115L Cells and the Evolution of Life Laboratory 1 BIOL 250 General Microbiology 3 BIOL 255 General Microbiology Lab 2 BIOL 380 Biochemistry I 4 CHEM 111 General Chemistry I 2 CHEM 111L General Chemistry I Laboratory 1 CHEM 112L General Chemistry II 4 CHEM 112L General Chemistry II Laboratory 1 CHEM 277 Organic Chemistry II Laboratory 1 CHEM 278 Organic Chemistry I: Lab 1 ENGR 123 First Year Engineering 2 ENGR 210 Engineering Statics 3 ENGR 320 Engineering Thermodynamics and Heat Transfer 3 ENGR 320 Engineering Fluid Mechanics 3 ENGR 350 Engineering Mechanics of Materials 3 ECON 201 Principles of Macroeconomics 3 or ECON 202 Principles of Microeconomics 3 MATH 170 Calculus II 4 MATH 275 Calculus III 3 MATH 310 Ordinary Differential Equations 3 PHYS 211 Engineering Physics I 3 PHYS 211L Laboratory Physics I 1 PHYS 212 Engineering Physics II 3 STAT 301 Probability and Statistics 3 Felchnical Electives 27 Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	BE 491	Senior Seminar	1
BIOL 250   General Microbiology   3	BIOL 115	Cells and the Evolution of Life	3
BIOL 255 General Microbiology Lab 2 BIOL 380 Biochemistry I 4 CHEM 111 General Chemistry I 2 CHEM 111L General Chemistry I Laboratory 1 CHEM 112 General Chemistry II Laboratory 1 CHEM 112L General Chemistry II Laboratory 1 CHEM 277 Organic Chemistry II Laboratory 1 CHEM 278 Organic Chemistry II Laboratory 1 CHEM 278 Organic Chemistry II Lab 1 ENGR 123 First Year Engineering 2 ENGR 210 Engineering Statics 3 ENGR 320 Engineering Thermodynamics and Heat Transfer 3 ENGR 335 Engineering Fluid Mechanics 3 ENGR 350 Engineering Mechanics of Materials 3 ECON 201 Principles of Macroeconomics 3 or ECON 202 Principles of Microeconomics 4 MATH 170 Calculus I 4 MATH 175 Calculus II 4 MATH 275 Calculus III 3 MATH 310 Ordinary Differential Equations 3 PHYS 211 Engineering Physics I 3 PHYS 211L Laboratory Physics I 1 PHYS 212 Engineering Physics II 3 STAT 301 Probability and Statistics 3 Technical Electives 21 Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	BIOL 115L	Cells and the Evolution of Life Laboratory	1
BIOL 380 Biochemistry I 4 CHEM 111 General Chemistry I 23 CHEM 111L General Chemistry I Laboratory 1 CHEM 112 General Chemistry II Laboratory 1 CHEM 112L General Chemistry II Laboratory 1 CHEM 277 Organic Chemistry II Laboratory 1 CHEM 278 Organic Chemistry II Laboratory 1 CHEM 278 Organic Chemistry I: Lab 1 ENGR 123 First Year Engineering 2 ENGR 210 Engineering Statics 3 ENGR 320 Engineering Thermodynamics and Heat Transfer 3 ENGR 335 Engineering Fluid Mechanics 3 ENGR 335 Engineering Mechanics of Materials 3 ECON 201 Principles of Macroeconomics 3 or ECON 202 Principles of Microeconomics 4 MATH 170 Calculus II 4 MATH 175 Calculus III 3 MATH 310 Ordinary Differential Equations 3 PHYS 211 Engineering Physics I 3 PHYS 211L Laboratory Physics I 1 PHYS 212 Engineering Physics II 3 STAT 301 Probability and Statistics 3 Technical Electives 21 Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	BIOL 250	General Microbiology	3
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CHEM 111L General Chemistry I Laboratory 1 CHEM 112 General Chemistry II 4 CHEM 112L General Chemistry II Laboratory 1 CHEM 277 Organic Chemistry I 3 CHEM 278 Organic Chemistry I: Lab 1 ENGR 123 First Year Engineering 2 ENGR 210 Engineering Statics 3 ENGR 320 Engineering Thermodynamics and Heat Transfer 3 ENGR 335 Engineering Fluid Mechanics 3 ENGR 350 Engineering Mechanics of Materials 3 ECON 201 Principles of Macroeconomics 3 or ECON 202 Principles of Microeconomics 4 MATH 170 Calculus I 4 MATH 275 Calculus II 4 MATH 275 Calculus III 3 MATH 310 Ordinary Differential Equations 3 PHYS 211 Engineering Physics I 3 PHYS 211L Laboratory Physics I 1 PHYS 212 Engineering Physics II 3 STAT 301 Probability and Statistics 3 Technical Electives 27 Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	BIOL 380	Biochemistry I	4
CHEM 112 General Chemistry II Laboratory 1 CHEM 277 Organic Chemistry II Laboratory 1 CHEM 278 Organic Chemistry I: Lab 1 ENGR 123 First Year Engineering 2 ENGR 210 Engineering Statics 3 ENGR 320 Engineering Thermodynamics and Heat Transfer 3 ENGR 335 Engineering Fluid Mechanics 3 ENGR 350 Engineering Mechanics of Materials 3 ECON 201 Principles of Macroeconomics 3 or ECON 202 Principles of Microeconomics 4 MATH 170 Calculus I 4 MATH 275 Calculus II 3 MATH 310 Ordinary Differential Equations 3 PHYS 211 Engineering Physics I 3 PHYS 211L Laboratory Physics I 1 PHYS 212 Engineering Physics II 3 STAT 301 Probability and Statistics 3 Technical Electives 27 Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	CHEM 111	General Chemistry I	3
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CHEM 277 Organic Chemistry I CHEM 278 Organic Chemistry I: Lab  ENGR 123 First Year Engineering ENGR 210 Engineering Statics ENGR 320 Engineering Thermodynamics and Heat Transfer ENGR 335 Engineering Fluid Mechanics ENGR 350 Engineering Mechanics of Materials ECON 201 Principles of Macroeconomics or ECON 202 Principles of Microeconomics  MATH 170 Calculus I MATH 275 Calculus II MATH 275 Calculus III MATH 310 Ordinary Differential Equations PHYS 211 Engineering Physics I PHYS 211L Laboratory Physics I PHYS 212 Engineering Physics II STAT 301 Probability and Statistics 3 Technical Electives Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	CHEM 112	General Chemistry II	4
CHEM 278 Organic Chemistry I: Lab 1 ENGR 123 First Year Engineering 2 ENGR 210 Engineering Statics 3 ENGR 320 Engineering Thermodynamics and Heat Transfer 3 ENGR 335 Engineering Fluid Mechanics 3 ENGR 350 Engineering Mechanics of Materials 3 ECON 201 Principles of Macroeconomics 3 or ECON 202 Principles of Microeconomics 4 MATH 170 Calculus I 4 MATH 175 Calculus II 4 MATH 275 Calculus III 3 MATH 310 Ordinary Differential Equations 3 PHYS 211 Engineering Physics I 3 PHYS 211L Laboratory Physics I 1 PHYS 212 Engineering Physics II 3 STAT 301 Probability and Statistics 3 Technical Electives 21 Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	CHEM 112L	General Chemistry II Laboratory	1
ENGR 123 First Year Engineering 2 ENGR 210 Engineering Statics 3 ENGR 320 Engineering Thermodynamics and Heat Transfer 3 ENGR 335 Engineering Fluid Mechanics 3 ENGR 350 Engineering Mechanics of Materials 3 ECON 201 Principles of Macroeconomics 3 or ECON 202 Principles of Microeconomics 4 MATH 170 Calculus I 4 MATH 175 Calculus II 4 MATH 275 Calculus III 3 MATH 310 Ordinary Differential Equations 3 PHYS 211 Engineering Physics I 3 PHYS 211 Laboratory Physics I 1 PHYS 212 Engineering Physics II 3 STAT 301 Probability and Statistics 3 Technical Electives 21 Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	CHEM 277	Organic Chemistry I	3
ENGR 210 Engineering Statics 3 ENGR 320 Engineering Thermodynamics and Heat Transfer 3 ENGR 335 Engineering Fluid Mechanics 3 ENGR 350 Engineering Mechanics of Materials 3 ECON 201 Principles of Macroeconomics 3 or ECON 202 Principles of Microeconomics 4 MATH 170 Calculus I 4 MATH 175 Calculus II 4 MATH 275 Calculus III 3 MATH 310 Ordinary Differential Equations 3 PHYS 211 Engineering Physics I 3 PHYS 211L Laboratory Physics I 1 PHYS 212 Engineering Physics II 3 STAT 301 Probability and Statistics 3 Technical Electives 21 Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	CHEM 278	Organic Chemistry I: Lab	1
ENGR 320 Engineering Thermodynamics and Heat Transfer 3 ENGR 335 Engineering Fluid Mechanics 3 ENGR 350 Engineering Mechanics of Materials 3 ECON 201 Principles of Macroeconomics 3 or ECON 202 Principles of Microeconomics  MATH 170 Calculus I 4 MATH 175 Calculus II 4 MATH 275 Calculus III 3 MATH 310 Ordinary Differential Equations 3 PHYS 211 Engineering Physics I 3 PHYS 211L Laboratory Physics I 1 PHYS 212 Engineering Physics II 3 STAT 301 Probability and Statistics 3 Technical Electives 21 Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	ENGR 123	First Year Engineering	2
ENGR 335 Engineering Fluid Mechanics 3 ENGR 350 Engineering Mechanics of Materials 3 ECON 201 Principles of Macroeconomics 3 or ECON 202 Principles of Microeconomics  MATH 170 Calculus I 4 MATH 175 Calculus II 4 MATH 275 Calculus III 3 MATH 310 Ordinary Differential Equations 3 PHYS 211 Engineering Physics I 3 PHYS 211L Laboratory Physics I 1 PHYS 212 Engineering Physics II 3 STAT 301 Probability and Statistics 3 Technical Electives 21 Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	ENGR 210	Engineering Statics	3
ENGR 350 Engineering Mechanics of Materials  ECON 201 Principles of Macroeconomics  or ECON 202 Principles of Microeconomics  MATH 170 Calculus I  MATH 175 Calculus II  MATH 275 Calculus III  MATH 310 Ordinary Differential Equations  3  PHYS 211 Engineering Physics I  3  PHYS 211L Laboratory Physics I  1  PHYS 212 Engineering Physics II  3  STAT 301 Probability and Statistics  3  Technical Electives  21  Select 12 credits from any 300 or 400 level Biological Engineering courses  Select 9 credits from any 300 or 400 level engineering or sciences	ENGR 320	Engineering Thermodynamics and Heat Transfer	3
ECON 201 Principles of Macroeconomics or ECON 202 Principles of Microeconomics  MATH 170 Calculus I  MATH 175 Calculus II  MATH 275 Calculus III  MATH 310 Ordinary Differential Equations 3  PHYS 211 Engineering Physics I  PHYS 211L Laboratory Physics I  PHYS 212 Engineering Physics II  STAT 301 Probability and Statistics 3  Technical Electives 21  Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	ENGR 335	Engineering Fluid Mechanics	3
or ECON 202 Principles of Microeconomics  MATH 170 Calculus I 4  MATH 175 Calculus II 4  MATH 275 Calculus III 3  MATH 310 Ordinary Differential Equations 3  PHYS 211 Engineering Physics I 3  PHYS 211L Laboratory Physics I 1  PHYS 212 Engineering Physics II 3  STAT 301 Probability and Statistics 3  Technical Electives 21  Select 12 credits from any 300 or 400 level Biological Engineering courses  Select 9 credits from any 300 or 400 level engineering or sciences	ENGR 350	Engineering Mechanics of Materials	3
MATH 170 Calculus I 4  MATH 175 Calculus II 4  MATH 275 Calculus III 3  MATH 310 Ordinary Differential Equations 3  PHYS 211 Engineering Physics I 3  PHYS 211L Laboratory Physics I 1  PHYS 212 Engineering Physics II 3  STAT 301 Probability and Statistics 3  Technical Electives 21  Select 12 credits from any 300 or 400 level Biological Engineering courses  Select 9 credits from any 300 or 400 level engineering or sciences	ECON 201	Principles of Macroeconomics	3
MATH 175 Calculus II 4  MATH 275 Calculus III 3  MATH 310 Ordinary Differential Equations 3  PHYS 211 Engineering Physics I 3  PHYS 211L Laboratory Physics I 1  PHYS 212 Engineering Physics II 3  STAT 301 Probability and Statistics 3  Technical Electives 21  Select 12 credits from any 300 or 400 level Biological Engineering courses  Select 9 credits from any 300 or 400 level engineering or sciences	or ECON 202	Principles of Microeconomics	
MATH 275 Calculus III 3  MATH 310 Ordinary Differential Equations 3  PHYS 211 Engineering Physics I 3  PHYS 211L Laboratory Physics I 1  PHYS 212 Engineering Physics II 3  STAT 301 Probability and Statistics 3  Technical Electives 21  Select 12 credits from any 300 or 400 level Biological Engineering courses  Select 9 credits from any 300 or 400 level engineering or sciences	MATH 170	Calculus I	4
MATH 310 Ordinary Differential Equations 3 PHYS 211 Engineering Physics I 3 PHYS 211L Laboratory Physics I 1 PHYS 212 Engineering Physics II 3 STAT 301 Probability and Statistics 3 Technical Electives 21 Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	MATH 175	Calculus II	4
PHYS 211 Engineering Physics I 3 PHYS 211L Laboratory Physics I 1 PHYS 212 Engineering Physics II 3 STAT 301 Probability and Statistics 3 Technical Electives 21 Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	MATH 275	Calculus III	3
PHYS 211L Laboratory Physics I 1 PHYS 212 Engineering Physics II 3 STAT 301 Probability and Statistics 3 Technical Electives 21 Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	MATH 310	Ordinary Differential Equations	3
PHYS 212 Engineering Physics II 3 STAT 301 Probability and Statistics 3 Technical Electives 21 Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	PHYS 211	Engineering Physics I	3
STAT 301 Probability and Statistics 3  Technical Electives 21  Select 12 credits from any 300 or 400 level Biological Engineering courses  Select 9 credits from any 300 or 400 level engineering or sciences	PHYS 211L	Laboratory Physics I	1
Technical Electives 21 Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	PHYS 212	Engineering Physics II	3
Select 12 credits from any 300 or 400 level Biological Engineering courses Select 9 credits from any 300 or 400 level engineering or sciences	STAT 301	Probability and Statistics	3
courses Select 9 credits from any 300 or 400 level engineering or sciences	Technical Electives		
	Select 12 credits from any 300 or 400 level Biological Engineering courses		
Total Hours 111	Total Hours		111

To be enrolled in upper-division BE courses, a student majoring in biological engineering must earn a grade of C or better in each of the following courses:

Code	Title	Hours
BE 242	Biological Engineering Analysis and Design	3
CHEM 111	General Chemistry I	3
CHEM 112	General Chemistry II	4
ENGR 210	Engineering Statics	3
MATH 170	Calculus I	4
MATH 175	Calculus II	4
MATH 275	Calculus III	3
MATH 310	Ordinary Differential Equations	3
PHYS 211	Engineering Physics I	3

In addition, a passing grade is required in each of the following courses before enrolling in upper-division BE courses:

Code	Title	Hours
BIOL 115	Cells and the Evolution of Life	3
BIOL 250	General Microbiology	3
ENGL 102	Writing and Rhetoric II	3
PHYS 212	Engineering Physics II	3

A GPA in BE designated courses of at least 2.0 is required to graduate

Courses to total 128 credits for this degree

## **Four-Year Plan**

Fall Term 1		Hours
CHEM 111	General Chemistry I	3
CHEM 111L	General Chemistry I Laboratory	1
ENGL 101	Writing and Rhetoric I	3
ENGR 123	First Year Engineering	2
MATH 170	Calculus I	4
Humanistic and Artistic W	ays of Knowing Course	3
	Hours	16
Spring Term 1		
BIOL 115	Cells and the Evolution of Life	3
BIOL 115L	Cells and the Evolution of Life Laboratory	1
CHEM 112	General Chemistry II	4
CHEM 112L	General Chemistry II Laboratory	1
MATH 175	Calculus II	4
ENGL 102	Writing and Rhetoric II	3
	Hours	16
Fall Term 2		
BE 242	Biological Engineering Analysis and Design	3
BIOL 250	General Microbiology	3
BIOL 255	General Microbiology Lab	2
MATH 275	Calculus III	3
PHYS 211	Engineering Physics I	3
PHYS 211L	Laboratory Physics I	1
American Diversity Course		3
	Hours	18
Spring Term 2		
CHEM 277	Organic Chemistry I	3
CHEM 278	Organic Chemistry I: Lab	1
ENGR 210	Engineering Statics	3
MATH 310	Ordinary Differential Equations	3

ECON 201

or ECON 202 PHYS 212	or Principles of Microeconomics	3
PH13 212	Engineering Physics II  Hours	16
Fall Term 3	Hours	10
BIOL 380	Diaghamistry	
ENGR 335	Biochemistry I	4
	Engineering Fluid Mechanics	3
ENGR 350	Engineering Mechanics of Materials	3
STAT 301	Probability and Statistics	3
Oral Communication		3
	Hours	16
Spring Term 3		
BE 341	Electronics in Biological Engineering	3
BE 361	Biotransport Processes	3
ENGR 320	Engineering Thermodynamics and Heat Transfer	3
UPDV BE course, Ma	ajor Elective Course	3
Humanistic and Arti	stic Ways of Knowing Course	3
UPDV Engineering c	ourse, Major Elective Course	3
	Hours	18
Fall Term 4		
BE 441	Instrumentation and Controls	4
BE 478	Engineering Design I	3
BE 491	Senior Seminar	1
UPDV BE Elective, M	ajor Elective Course	3
UPDV BE Elective, Major Elective Course		3
UPDV Engineering c	ourse, Major Elective Course	3
	Hours	17
Spring Term 4		
BE 461	Bioprocess Engineering	3
BE 479	Engineering Design II	3
Social and Behaviora	al Ways of Knowing Course	3
UPDV BE Elective, Major Elective Course		3
International Course		3
UPDV Engineering c	ourse, Major Elective Course	3
	Hours	18

## **Five-Year Plan**

Fall Term 1		Hours
ENGL 101	Writing and Rhetoric I	3
ENGR 123	First Year Engineering	2
MATH 143	College Algebra	3
MATH 144	Precalculus II: Trigonometry	1
International Course		3
Oral Communication Cou	rse	3
	Hours	15
Spring Term 1		
CHEM 111	General Chemistry I	3
CHEM 111L	General Chemistry I Laboratory	1
ENGL 102	Writing and Rhetoric II	3
MATH 170	Calculus I	4
Humanistic and Artistic Ways of Knowing Course		3
	Hours	14
Fall Term 2		
BE 242	Biological Engineering Analysis and Design	3
BIOL 115	Cells and the Evolution of Life	3
BIOL 115L	Cells and the Evolution of Life Laboratory	1
CHEM 112	General Chemistry II	4
CHEM 112L	General Chemistry II Laboratory	1
MATH 175	Calculus II	4
	Hours	16

MATH 275         Calculus III         3           PHYS 211         Engineering Physics I         1           PHYS 211L         Laboratory Physics I         1           Humanistic and Artistic Ways of Knowing Course         3           Hours         13           Fall Term 3           BIOL 250         General Microbiology         3           BIOL 255         General Microbiology Lab         2           ENGR 350         Engineering Mechanics of Materials         3           STAT 301         Probability and Statistics         3           UPDV Engineering/Science, Major Elective Course         3           Hours         14           Spring Term 3           Hours         14           Spring Term 3         0 Granic Chemistry I         3           CHEM 277         Organic Chemistry I: Lab         1           ECON 201         Principles of Macroeconomics         3           Argue o	Spring Term 2		
PHYS 211L         Engineering Physics I         3           Humanistic and Artistic Ways of Knowing Course         3           Hours         13           Fall Term 3         BIOL 250         General Microbiology         3           BIOL 255         General Microbiology Lab         2           ENGR 350         Engineering Mechanics of Materials         3           STAT 301         Probability and Statistics         3           UPDV Engineering/Science, Major Elective Course         3           Hours         14           Spring Term 3         CHEM 277         Organic Chemistry I         3           CHEM 277         Organic Chemistry I: Lab         1           ECON 201         Principles of Macroeconomics         3           or ECON 202         or Principles of Microeconomics         3           MATH 310         Ordinary Differential Equations         3           BATH 310         Ordinary Differential Equations         3           HOUTS         13         4           Fall Term 4         BIOL 380         Biochemistry I         4           BENGR 335         Engineering Fluid Mechanics         3           UPDV BE, Major Elective Course         6           Hours         13 </td <td>ENGR 210</td> <td>Engineering Statics</td> <td>3</td>	ENGR 210	Engineering Statics	3
PHYS 211L	MATH 275	Calculus III	3
Humanistic and Artistic Ways of Knowing Course	PHYS 211	Engineering Physics I	3
Hours   13	PHYS 211L	Laboratory Physics I	1
Fall Term 3 BIOL 250 General Microbiology BIOL 255 General Microbiology Lab ENGR 350 Engineering Mechanics of Materials STAT 301 Probability and Statistics 33 STAT 301 Probability and Statistics 34 UPDV Engineering/Science, Major Elective Course Hours  Spring Term 3 CHEM 277 Organic Chemistry I CHEM 278 Organic Chemistry I: Lab ECON 201 Principles of Macroeconomics or ECON 202 or Principles of Microeconomics MATH 310 Ordinary Differential Equations 9 HOURS 13 Fall Term 4 BIOL 380 Biochemistry I ENGR 335 Engineering Physics II BIOL 380 Biochemistry I ENGR 335 Engineering Fluid Mechanics 30 UPDV BE, Major Elective Course Hours 13 Spring Term 4 BE 341 Electronics in Biological Engineering BE 461 Bioprocess Engineering SNGR 320 Engineering Thermodynamics and Heat Transfer ENGR 320 Engineering Thermodynamics and Heat Transfer BIOR 360 Engineering Teconomy BE 361 Biotransport Processes Hours 14 Fall Term 5 BE 441 Instrumentation and Controls BE 478 Engineering Design I BE 478 Engineering Design I BE 479 Senior Seminar 10 UPDV Engineering/Science, Major Elective Course 40 UPDV BE, Major Elective Course 41 Spring Term 5 BE 479 Engineering Design II Social and Behavioral Ways of Knowing Course 41 UPDV BE, Major Elective Course 42 UPDV BE, Major Elective Course 43 UPDV BE, Major Elective Course 44 UPDV BE, Major Elective Course 45 UPDV BE, Major Elective Course 46 UPDV BE, Major Elective Course 47 UPDV BE, Major Elective Course 48 UPDV BE, Major Elective Course 49 UPDV BE, Major Elective Course 49 UPDV BE, Major Elective Course 49 UPDV BE, Major Elective Course 40 UPDV BE, Major Elective Course 40 UPDV BE, Major Elective Course 41 UPDV Engineering/Science, Major Elective Course 42 UPDV Engineering/Science, Major Elective Course	Humanistic and Artistic W	ays of Knowing Course	3
BIOL 250   General Microbiology		Hours	13
BIOL 255   General Microbiology Lab   2	Fall Term 3		
ENGR 350         Engineering Mechanics of Materials         3           STAT 301         Probability and Statistics         3           UPDV Engineering/Science, Major Elective Course         3           Hours         14           Spring Term 3           CHEM 277         Organic Chemistry I         3           CHEM 278         Organic Chemistry I: Lab         1           ECON 201         Principles of Macroeconomics         3           or Principles of Microeconomics         3           MATH 310         Ordinary Differential Equations         3           PHYS 212         Engineering Physics II         3           Hours         13           Fall Term 4           BIOL 380         Biochemistry I         4           ENGR 335         Engineering Fluid Mechanics         3           UPDV BE, Major Elective Course         6           Hours         13           Spring Term 4           BE 341         Electronics in Biological Engineering         3           ENGR 320         Engineering Thermodynamics and Heat Transfer         3           ENGR 360         Engineering Economy	BIOL 250	General Microbiology	3
STAT 301         Probability and Statistics         3           UPDV Engineering/Science, Major Elective Course         3           Hours         14           Spring Term 3         14           CHEM 277         Organic Chemistry I         3           CHEM 278         Organic Chemistry I: Lab         1           ECON 201         Principles of Macroeconomics or ECON 202 or Principles of Microeconomics         3           MATH 310         Ordinary Differential Equations         3           PHYS 212         Engineering Physics II         3           Hours         13         Fall Term 4           BIOL 380         Biochemistry I         4           ENGR 335         Engineering Fluid Mechanics         3           UPDV BE, Major Elective Course         6           Hours         13           Spring Term 4         8         13           BE 341         Electronics in Biological Engineering         3           BE 461         Bioprocess Engineering         3           BE 461         Bioprocess Engineering         3           BE 360         Engineering Thermodynamics and Heat Transfer         3           BE 361         Biotransport Processes         3           BE 441 <t< td=""><td>BIOL 255</td><td>General Microbiology Lab</td><td>2</td></t<>	BIOL 255	General Microbiology Lab	2
UPDV Engineering/Science, Major Elective Course	ENGR 350	Engineering Mechanics of Materials	3
Hours	STAT 301	Probability and Statistics	3
Spring Term 3         CHEM 277         Organic Chemistry I         3           CHEM 278         Organic Chemistry I: Lab         1           ECON 201         Principles of Macroeconomics         3           or ECON 202         or Principles of Microeconomics         3           MATH 310         Ordinary Differential Equations         3           Hours         13           Fall Term 4           BIOL 380         Biochemistry I         4           ENGR 335         Engineering Fluid Mechanics         3           UPDV BE, Major Elective Course         6           Hours         13           Spring Term 4           BE 341         Electronics in Biological Engineering         3           ENGR 320         Engineering Thermodynamics and Heat Transfer         3           ENGR 320         Engineering Termodynamics and Heat Transfer         3           ENGR 360         Engineering Economy         2           BE 361         Biotransport Processes         3           Hours         14           Fall Term 5           BE 441         Instrumentation and Controls         3           BE 491         Senior Seminar	UPDV Engineering/Science	e, Major Elective Course	3
CHEM 277         Organic Chemistry I         3           CHEM 278         Organic Chemistry I: Lab         1           ECON 201         Principles of Macroeconomics         3           or ECON 202         or Principles of Microeconomics         3           MATH 310         Ordinary Differential Equations         3           PHYS 212         Engineering Physics II         3           Hours         13           Fall Term 4           BIOL 380         Biochemistry I         4           ENGR 335         Engineering Fluid Mechanics         3           UPDV BE, Major Elective Course         6           Hours         13           Spring Term 4           BE 341         Electronics in Biological Engineering         3           BE 461         Bioprocess Engineering         3           BE 461         Bioprocess Engineering         3           BE 360         Engineering Termodynamics and Heat Transfer         3           BE 361         Biotransport Processes         3           Hours         14           Fall Term 5           BE 441         Instrumentation and Controls         3           BE 478		Hours	14
CHEM 278         Organic Chemistry I: Lab         1           ECON 201         Principles of Macroeconomics         3           or ECON 202         or Principles of Microeconomics         3           MATH 310         Ordinary Differential Equations         3           PHYS 212         Engineering Physics II         3           Hours         13           Fall Term 4           BIOL 380         Biochemistry I         4           ENGR 335         Engineering Fluid Mechanics         3           UPDV BE, Major Elective Course         6           Hours         13           Spring Term 4           BE 341         Electronics in Biological Engineering         3           BE 341         Electronics in Biological Engineering         3           BE 461         Bioprocess Engineering         3           ENGR 320         Engineering Thermodynamics and Heat Transfer         3           ENGR 360         Engineering Economy         2           BE 361         Biotransport Processes         3           Hours         14           Fall Term 5           BE 441         Instrumentation and Controls         3           BE 478	Spring Term 3		
ECON 201         Principles of Macroeconomics or ECON 202         3           or ECON 202         or Principles of Microeconomics           MATH 310         Ordinary Differential Equations         3           PHYS 212         Engineering Physics II         3           Hours         13           Fall Term 4           BIOL 380         Biochemistry I         4           ENGR 335         Engineering Fluid Mechanics         3           UPDV BE, Major Elective Course         6           Hours         13           Spring Term 4           BE 341         Electronics in Biological Engineering         3           BE 341         Electronics in Biological Engineering         3           BE 461         Bioprocess Engineering         3           ENGR 320         Engineering Thermodynamics and Heat Transfer         3           ENGR 360         Engineering Economy         2           BE 361         Biotransport Processes         3           Hours         14           Fall Term 5           BE 441         Instrumentation and Controls         3           BE 491 <td< td=""><td>CHEM 277</td><td>Organic Chemistry I</td><td>3</td></td<>	CHEM 277	Organic Chemistry I	3
or ECON 202         or Principles of Microeconomics           MATH 310         Ordinary Differential Equations         3           PHYS 212         Engineering Physics II         3           Hours         13           Fall Term 4           BIOL 380         Biochemistry I         4           ENGR 335         Engineering Fluid Mechanics         3           UPDV BE, Major Elective Course         6           Hours         13           Spring Term 4           BE 341         Electronics in Biological Engineering         3           BE 461         Bioprocess Engineering         3           ENGR 320         Engineering Thermodynamics and Heat Transfer         3           ENGR 360         Engineering Economy         2           BE 361         Biotransport Processes         3           Hours         14           Fall Term 5           BE 441         Instrumentation and Controls         3           BE 491         Senior Seminar         1           UPDV Engineering/Science, Major Elective Course         3           Hours         13           Spring Term 5           BE 479	CHEM 278	Organic Chemistry I: Lab	1
MATH 310         Ordinary Differential Equations         3           PHYS 212         Engineering Physics II         3           Hours         13           Fall Term 4           BIOL 380         Biochemistry I         4           ENGR 335         Engineering Fluid Mechanics         3           UPDV BE, Major Elective Course         6           Hours         13           Spring Term 4           BE 341         Electronics in Biological Engineering         3           BE 461         Bioprocess Engineering         3           ENGR 320         Engineering Thermodynamics and Heat Transfer         3           ENGR 360         Engineering Economy         2           BE 361         Biotransport Processes         3           Hours         14           Fall Term 5           BE 441         Instrumentation and Controls         3           BE 478         Engineering Design I         3           BE 491         Senior Seminar         1           UPDV Engineering/Science, Major Elective Course         3           BE 479         Engineering Design II         3           Social and Behavioral Ways of Knowing Course<		•	3
PHYS 212   Engineering Physics II   33		·	
Hours   Hour			
Fall Term 4         BIOL 380         Biochemistry I         4           ENGR 335         Engineering Fluid Mechanics         3           UPDV BE, Major Elective Course         6           Hours         13           Spring Term 4           BE 341         Electronics in Biological Engineering         3           BE 461         Bioprocess Engineering         3           ENGR 320         Engineering Thermodynamics and Heat Transfer         3           ENGR 360         Engineering Economy         2           BE 361         Biotransport Processes         3           Hours         14           Fall Term 5           BE 441         Instrumentation and Controls         3           BE 478         Engineering Design I         3           BE 491         Senior Seminar         1           UPDV Engineering/Science, Major Elective Course         3           Hours         13           Spring Term 5           BE 479         Engineering Design II         3           Social and Behavioral Ways of Knowing Course         3           UPDV BE, Major Elective Course         3           UPDV Engineering/Science, Major Elective Course	PH12 212		
BIOL 380   Biochemistry   4	F-11 T 4	Hours	13
ENGR 335 Engineering Fluid Mechanics  Hours  Hours  13  Spring Term 4  BE 341 Electronics in Biological Engineering  BE 461 Bioprocess Engineering  ENGR 320 Engineering Thermodynamics and Heat Transfer  ENGR 360 Engineering Economy  BE 361 Biotransport Processes  Hours  14  Fall Term 5  BE 441 Instrumentation and Controls  BE 478 Engineering Design I  BE 491 Senior Seminar  UPDV Engineering/Science, Major Elective Course  American Diversity Course  Hours  13  Spring Term 5  BE 479 Engineering Design II  Social and Behavioral Ways of Knowing Course  UPDV BE, Major Elective Course  30  UPDV BE, Major Elective Course  31  UPDV BE, Major Elective Course  32  UPDV Engineering/Science, Major Elective Course  33  UPDV BE, Major Elective Course  34  UPDV Engineering/Science, Major Elective Course  35  UPDV Engineering/Science, Major Elective Course  36  UPDV Engineering/Science, Major Elective Course  37  UPDV Engineering/Science, Major Elective Course  38  UPDV Engineering/Science, Major Elective Course  39  UPDV Engineering/Science, Major Elective Course  30  UPDV Engineering/Science, Major Elective Course  30  UPDV Engineering/Science, Major Elective Course  31  UPDV Engineering/Science, Major Elective Course  30  UPDV Engineering/Science, Major Elective Course		Dischemistry I	
Hours   13		, , , , , , , , , , , , , , , , , , ,	
Hours   13   Spring Term 4     BE 341			
Spring Term 4           BE 341         Electronics in Biological Engineering         3           BE 461         Bioprocess Engineering         3           ENGR 320         Engineering Thermodynamics and Heat Transfer         3           ENGR 360         Engineering Economy         2           BE 361         Biotransport Processes         3           Hours         14           Fall Term 5           BE 441         Instrumentation and Controls         3           BE 478         Engineering Design I         3           BE 491         Senior Seminar         1           UPDV Engineering/Science, Major Elective Course         3           American Diversity Course         3           Hours         13           Spring Term 5           BE 479         Engineering Design II         3           Social and Behavioral Ways of Knowing Course         3           UPDV BE, Major Elective Course         3           UPDV Engineering/Science, Major Elective Course         3           UPDV Engineering/Science, Major Elective Course         3           Hours         15	OF DV BL, Major Elective C		
BE 341         Electronics in Biological Engineering         3           BE 461         Bioprocess Engineering         3           ENGR 320         Engineering Thermodynamics and Heat Transfer         3           ENGR 360         Engineering Economy         2           BE 361         Biotransport Processes         3           Hours         14           Fall Term 5           BE 441         Instrumentation and Controls         3           BE 478         Engineering Design I         3           BE 491         Senior Seminar         1           UPDV Engineering/Science, Major Elective Course         3           American Diversity Course         3           Hours         13           Spring Term 5           BE 479         Engineering Design II         3           Social and Behavioral Ways of Knowing Course         3           UPDV BE, Major Elective Course         3           UPDV Engineering/Science, Major Elective Course         3           UPDV Engineering/Science, Major Elective Course         3           Hours         15	Spring Torm /	nouis	13
BE 461         Bioprocess Engineering         3           ENGR 320         Engineering Thermodynamics and Heat Transfer         3           ENGR 360         Engineering Economy         2           BE 361         Biotransport Processes         3           Hours         14           Fall Term 5           BE 441         Instrumentation and Controls         3           BE 478         Engineering Design I         3           BE 491         Senior Seminar         1           UPDV Engineering/Science, Major Elective Course         3           American Diversity Course         3           Hours         13           Spring Term 5           BE 479         Engineering Design II         3           Social and Behavioral Ways of Knowing Course         3           UPDV BE, Major Elective Course         3           UPDV Engineering/Science, Major Elective Course         3           UPDV Engineering/Science, Major Elective Course         3           Hours         15	-	Flectronics in Biological Engineering	3
ENGR 320         Engineering Thermodynamics and Heat Transfer           ENGR 360         Engineering Economy           BE 361         Biotransport Processes           Hours           14           Fall Term 5           BE 441           Instrumentation and Controls           3           BE 478         Engineering Design I           BE 491         Senior Seminar           UPDV Engineering/Science, Major Elective Course         3           Hours           3           From 5           BE 479         Engineering Design II         3           Social and Behavioral Ways of Knowing Course         3           UPDV BE, Major Elective Course         3           UPDV Engineering/Science, Major Elective Course         3           UPDV Engineering/Science, Major Elective Course         3           UPDV Engineering/Science, Major Elective Course         3           Hours         15			
ENGR 360         Engineering Economy         2           BE 361         Biotransport Processes         3           Hours         14           Fall Term 5         8           BE 441         Instrumentation and Controls         3           BE 478         Engineering Design I         3           BE 491         Senior Seminar         1           UPDV Engineering/Science, Major Elective Course         3           American Diversity Course         3           Hours         13           Spring Term 5         8           BE 479         Engineering Design II         3           Social and Behavioral Ways of Knowing Course         3           UPDV BE, Major Elective Course         3           UPDV BE, Major Elective Course         3           UPDV Engineering/Science, Major Elective Course         3           Hours         15			
BE 361   Biotransport Processes   33   Hours   14			
Hours			
Fall Term 5           BE 441         Instrumentation and Controls         3           BE 478         Engineering Design I         3           BE 491         Senior Seminar         1           UPDV Engineering/Science, Major Elective Course         3           American Diversity Course         3           Hours         13           Spring Term 5           BE 479         Engineering Design II         3           Social and Behavioral Ways of Knowing Course         3           UPDV BE, Major Elective Course         3           UPDV BE, Major Elective Course         3           UPDV Engineering/Science, Major Elective Course         3           Hours         15		<u> </u>	
BE 478         Engineering Design I         3           BE 491         Senior Seminar         1           UPDV Engineering/Science, Major Elective Course         3           American Diversity Course         3           Hours         13           Spring Term 5           BE 479         Engineering Design II         3           Social and Behavioral Ways of Knowing Course         3           UPDV BE, Major Elective Course         3           UPDV BE, Major Elective Course         3           UPDV Engineering/Science, Major Elective Course         3           Hours         15	Fall Term 5		
BE 491         Senior Seminar         1           UPDV Engineering/Science, Major Elective Course         3           American Diversity Course         3           Hours         13           Spring Term 5           BE 479         Engineering Design II         3           Social and Behavioral Ways of Knowing Course         3           UPDV BE, Major Elective Course         3           UPDV BE, Major Elective Course         3           UPDV Engineering/Science, Major Elective Course         3           Hours         15	BE 441	Instrumentation and Controls	3
UPDV Engineering/Science, Major Elective Course         3           American Diversity Course         3           Hours         13           Spring Term 5           BE 479         Engineering Design II         3           Social and Behavioral Ways of Knowing Course         3           UPDV BE, Major Elective Course         3           UPDV BE, Major Elective Course         3           UPDV Engineering/Science, Major Elective Course         3           Hours         15	BE 478	Engineering Design I	3
American Diversity Course         3           Hours         13           Spring Term 5           BE 479         Engineering Design II         3           Social and Behavioral Ways of Knowing Course         3           UPDV BE, Major Elective Course         3           UPDV BE, Major Elective Course         3           UPDV Engineering/Science, Major Elective Course         3           Hours         15	BE 491	Senior Seminar	1
Hours 13  Spring Term 5  BE 479 Engineering Design II 3  Social and Behavioral Ways of Knowing Course 3  UPDV BE, Major Elective Course 3  UPDV BE, Major Elective Course 3  UPDV Engineering/Science, Major Elective Course 3  Hours 15	UPDV Engineering/Science	e, Major Elective Course	3
Spring Term 5           BE 479         Engineering Design II         3           Social and Behavioral Ways of Knowing Course         3           UPDV BE, Major Elective Course         3           UPDV BE, Major Elective Course         3           UPDV Engineering/Science, Major Elective Course         3           Hours         15			3
BE 479 Engineering Design II 3 Social and Behavioral Ways of Knowing Course 3 UPDV BE, Major Elective Course 3 UPDV BE, Major Elective Course 3 UPDV Engineering/Science, Major Elective Course 3 Hours 15		Hours	13
Social and Behavioral Ways of Knowing Course  UPDV BE, Major Elective Course  UPDV BE, Major Elective Course  UPDV Engineering/Science, Major Elective Course  Hours  15	Spring Term 5		
UPDV BE, Major Elective Course  UPDV BE, Major Elective Course  UPDV Engineering/Science, Major Elective Course  Hours  3  3  Hours	BE 479	Engineering Design II	3
UPDV BE, Major Elective Course  UPDV Engineering/Science, Major Elective Course  Hours  15	Social and Behavioral Way	ys of Knowing Course	3
UPDV Engineering/Science, Major Elective Course  Hours 15	UPDV BE, Major Elective C	Course	3
Hours 15	UPDV BE, Major Elective C	Course	3
	UPDV Engineering/Science	e, Major Elective Course	3
Total Haura 140		Hours	15
Total nouis 140		Total Hours	140

The degree map is a guide for the timely completion of your curricular requirements. Your academic advisor or department may be contacted for assistance in interpreting this map. This map is not reflective of your academic history or transcript and it is not official notification of completion of degree or certificate requirements. Please contact the Registrar's Office regarding your official degree/certificate completion status.

Graduates will be proficient engineering problem solvers capable
of identifying, formulating, and solving engineering problems by
integrating their knowledge of mathematics, engineering, physics,
biology, and chemistry.

- 2. Graduates will be effective engineers who apply their skills to design systems, components, and processes to solve engineering problems for an ever-changing world.
- 3. Graduates will be effective written and verbal communicators and productive team members.
- 4. Graduates will have a strong professional identity with a keen awareness of their professional and ethical responsibility, and they will practice lifelong learning.
- 5. Graduates will design for advancement and sustainability of their local, national, and global communities, protecting human health and safety and practicing environmental stewardship.