

Name:	
Plan:	Biotechnology, B.S.
SubPlan/Option:	
Min. Units Required:	120 units

2021-2022 University Catalog Degree Curriculum Sheet

BIO 1210 - Foundations of Biology: Energy, Matter, and Information (3) (82) BIO1210 - Foundations of Biology: Energy, Matter, and Information (3) (82) BIO1220 - Foundations of Biology: Evolution, Ecology, and Biodiversity (3) BIO1220 - Foundations of Biology: Evolution, Ecology, and Biodiversity (3) BIO1220 - Foundations of Biology: Evolution, Ecology, and Biodiversity (3) BIO2200 - Basic Microbiology (3) BIO2200 - Basic Microbiology (3) BIO2200 - Basic Microbiology (4) BIO2200 - Basic Microbiology (4) BIO2200 - Basic Microbiology (5) BIO2200 - Basic Microbiology (5) BIO2200 - Basic Microbiology (6) BIO2200 - Basic Microbiology (5) BIO2200 - Applied Microbiology (4) BIO2200 - Bio2200 - Applied Microbiology (5) BIO2200 - Applied Microbiology (5) BIO2200 - Applied Microbiology (6) BIO2200 - Avanced Genetics (6) BIO2200 - Avanced Genetics (7) BIO2200 - Avanced Genetics (7) BIO2200 - Avanced Genetics (8) BIO2200 - Bio		IVIIII. Offics frequired.
BIOL220. Foundations of Biology: Evolution, Ecology, and Biodiversity (1) BIOL220. Foundations of Biology: Evolution, Ecology, and Biodiversity (1) BIOL220. Foundations of Biology: Evolution, Ecology, and Biodiversity (1) BIOL220. Foundations of Biology: Evolution, Ecology, and Biodiversity (1) BIOL220. Foundations of Biology: Evolution, Ecology, and Biodiversity (1) BIOL220. Horizons in Biotechnology (1) BIOL220. Human Sexuality (3) (BF) or BIOL220. Human Genetics (3) BIOL220. Evolution and Society (3) (BF) or BIOL220. Evolution and Society (3) (BF) or BIOL220. Horizons in Biotechnology (3) (BF) or BIOL220. Horizons in Biolatechnology (3) (BF) or BIOL220. Horizons in Biol220.	Maior Required 74-7	5 units Upper Division Course Emphases
BIO1220 - Foundations of Blology: Evolution, Ecology, and Blodiwersity (3) BIO2200 - Foundations of Bloogy: Evolution, Ecology, and Blodiwersity Laboratory (1) BIO2200 - Basic Microbiology (3) BIO22	BIO1210 - Foundations of Biology: Energy, Matter, and Information (3) (B2)	Emphasis 1: Cellular, Molecular, and Microbial Biology
BIO1220 Foundations of Biodigy: Evolution, Ecology, and Biodiversity Laboratory (1) BIO260 Basic Microbiology (2) BIO260 Basic Microbiology (1) BIO260 Basic Microbiology (1) BIO260 Basic Microbiology (1) BIO260 Basic Microbiology (2) BIO260 Basic Microbiology (1) BIO260 Genetics (3) BIO260 Basic Microbiology (1) BIO260 Advanced Genetics (3) BIO260 Microbial Biology Techniques (3) BIO260 Microbial Biology Techniques (3) BIO360 Biocombianat DNA and Protein Technology (3) BIO360 Basic Microbiology (3) BIO360 Basic Basic Microbiology (3) BIO360 Basic Basic Microbiology (3) BIO360 Basic		BIO3600 - General Epidemiology (3)
BIO2986 Food Microbiology (2 Jaboratory (1)	BIO1220L - Foundations of Biology: Evolution, Ecology, and Biodiversity Laboratory (1)	BIO3620 - Applied Microbiology (2)
BIO2300 - Horizons in Biotechnology (1) BIO2400 - Genetics (3) BIO2400 - Genetics (3) BIO3000 - Genetics and Human Issues (3) (B5) or BIO3001 - Human Sexuality (3) (B5) or BIO3030 - Sexuality Transmitted Diseases and Safer Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases and Safer Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases and Safer Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases and Safer Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases and Safer Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases and Safer Sex (3) (B5) or BIO3030 - Environment and Society (3) (B5) or BIO3030 - Sexuality Transmitted DNA and Protein Technology Laboratory (1) BIO3030 - Biology of Human Pregiancy (3) (B5) or BIO3030 - Biology of Human Pregiancy (3) (B5) or BIO3030 - Biology of Human Pregiancy (3) (B5) or BIO3030 - Biology of Human Pregiancy (3) (B5) or BIO3030 - Biology of Human Pregiancy (3) (B5) or BIO3030 - Biology of Human Pregiancy (3) (B5) or BIO3030 - Biology of Human Pregiancy (3) (B5) or BIO3030 - Biology of Human Pregiancy (3) (B5) or BIO3030 - Biology of Human Pregiancy (3) (B5) or BIO3030 - Biology of Human Pregiancy (3) (B5) or BIO3030 - Biology of Human Pregiancy (3) (B5) or BIO3030 - Biology of Human Pregiancy (3) (B5) or BIO4300 - Biology of Human Pregiancy (3) (B5) or BIO4300 - Biology of Human Pregiancy (3) (B5) or BIO4300 - Biology of Human Pregiancy (3) (B5) or BIO4300 - Biology of Human Pregiancy (3) (B5) or BIO4300 - Biology of Human Pregiancy (3) (B5) or BIO4300 - Biology of Human Pregiancy (3) (B5) or BIO4300 - Biology of Human Pregiancy (3) (B5) or BIO4300 - Biology of Human Pregiancy (3) (B5) or BIO4300 - Biology of Human Pregiancy (3) (B5) or BIO4300 - Biology of Human Pregiancy (3) (B5) or BIO4300 - Biology of Human Pregiancy (3) (B5) or BIO4300 - Biology of Human Pregiancy (3) (B5) or BIO4300 - Biology of Human Pregiancy (3)	BIO2060 - Basic Microbiology (3)	BIO3620L - Applied Microbiology Laboratory (1) BIO3640 - Food Microbiology (2)
BiO4200 - Genetics (3)		BIO3640L - Food Microbiology Laboratory (1)
BIO3000 - Genetics and Human Issues (3) (B5) or BIO3010 - Human Sexuality (3) (B5) or BIO3010 - Human Sexuality (3) (B5) or BIO3030 - Sexuality Transmitted Diseases and Safer Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases and Safer Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases and Safer Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases and Safer Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases and Safer Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases and Safer Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases and Safer Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases and Safer Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases Sex (3) (B5) or BIO3030 - Sexuality Transmitted Diseases And Protein Technology (3) BIO3030 - Sexuality Transmitted Diseases And Protein Technology (3) BIO3030 - Sexuality (3) (B5) or BIO3030	BIO2400 - Genetics (3)	BIO4030 - Human Genetics (3)
BIO3301 - Human Sexuality (3) (85) or BIO4302 - Molecular Biology Techniques Laboratory (1) BIO3303 - Sexuality Transmitted Diseases and Safer Sex (3) (85) or BIO3304 - Environment and Society (3) (85) or BIO3304 - Environment and Society (3) (85) or BIO3304 - Environment and Society (3) (85) or BIO3305 - Becombinant DNA and Protein Technology (3) BIO3305 - Bio3004 - Environment and Society (3) (85) or BIO3309 - Biodogy of thuman Pregnancy (3) (85) or BIO3309 - Biodogy of thuman Pregnancy (3) (85) or BIO3300 - Biodogy of thuman Pregnancy (3) (85) or BIO3300 - Biodogy (3) BIO4400 - Stem Cell Biology (3) BIO4400 - Bio4400 - And Protein Technology (3) BIO4400 - Bio4400 - Medical Winology (1) BIO4400 - Medical Winology (1) BIO4400 - Medical Winology (1) BIO4400 -	•	BIO4040 - Advanced Genetics (3)
BIO3393 - Sexually Transmited Diseases and Safer Sex (3) (B5) or BIO4390 - Recombinant DNA and Protein Technology (3) BIO3490 - Biordomorment and Society (3) (B5) or BIO3490 - Biordomorment and Society (3) (B5) or BIO3490 - Biology of He Brain (3) (B5) or BIO3490 - Biology of He Brain (3) (B5) or BIO3490 - Biology of He Brain (3) (B5) or BIO3490 - Biology of He Brain (3) (B5) or BIO3490 - Biology of He Brain (3) (B5) or BIO3490 - Biology (3) (B5) or Bi	BIO3000 - Genetics and Human Issues (3) (B5) or	
BIO3490. Environment and Society (3) (B5) or BIO370. Bilo(yo) of Human Pregnancy (3) (B5) or BIO390. Biology of Human Pregnancy (3) (B5) or BIO3190. Biody of Human Pregnancy (3) (B5) or BIO3190. Biody of Human Pregnancy (3) (B5) or BIO3190. Concepts of Molecular Biology (3) BIO4300. Concepts of Molecular Biology (3) BIO4300. Concepts of Molecular Biology (3) BIO4300. Molecular Biology Techniques (3) and BIO4300. Molecular Biology Techniques (3) and BIO4300. Molecular Biology Techniques (3) and BIO4300. Nolecular Biology Techniques (3) and BIO4300. Recombinant DNA and Protein Technology (3) and BIO4300. Recombinant DNA and Protein Technology (3) and BIO4400. Internship in Biology (1-2) (1-unit required) or BIO44601. Internship in Biology (1-2) (1		BIO4360 - Recombinant DNA and Protein Technology (3)
BIO3090 - Biology of Human Pregnancy (3) (B5) or BIO3990 - Biology of the Brain (3) (B5) or BIO3909 - Biology of the Brain (3) (B5) or BIO3909 - Biology of the Brain (3) (B5) or BIO3190 - Biodity of the Brain (Biology (3) (B5) BIO3190 - Biodity of the Brain (Biology (3) (B5) BIO3190 - Biodity of		BIO4360L - Recombinant DNA and Protein Technology Laboratory (1)
BIO3120 - Biodiversity Conservation (3) (B5) or BIO3120 - Marine Biology (3) (B5) BIO3120 - Marine Biology (3) (B5) BIO3202 - Cell and Molecular Biology (3) BIO3202 - Cell and Molecular Biology (3) BIO3202 - Cell and Molecular Biology (3) BIO4300 - Concepts of Molecular Biology (3) BIO4300 - Concepts of Molecular Biology (3) BIO4300 - Tissue Culture and Its Application (2) BIO4301 - Tissue Culture and Its Application (2) BIO4302 - Molecular Biology Techniques (3) and BIO4302 - Molecular Biology Techniques Laboratory (1) BIO4302 - Molecular Biology Techniques Laboratory (1) BIO4303 - Recombinant DNA and Protein Technology (3) and BIO4303 - Recombinant DNA and Protein Technology (3) and BIO4304 - Recombinant DNA and Protein Technology Laboratory (1) BIO4410 - Internship in Biology (1-2) (1-unit required) or BIO4410 - Internship in Biology (1-2) (1-unit required) or BIO4410 - Undergraduate Research (1) BIO4401 - Molecular Biology (3) BIO4401 - Medical Wirology (1) BIO4402 - General Chemistry (1) (B1) CHM1210 - General Chemistry Laboratory (1) (B3) CHM1220 - General Chemistry (3) (B1) CHM1210 - General Chemistry (3) (B1) CHM1210 - General Chemistry (4) CHM210 - Cupanitative Analysis (2) CHM210 - Cupanitative Analysis (2) CHM210 - Cupanitative Analysis (2) CHM3140 - Organic Chemistry (4) CHM3140 - Organic Chemistry (3) CHM3270 - Biochemistry (3) CHM3270 - Biochemistry Laboratory (1) CHM3150 - Organic Chemistry (3) CHM3270 - Biochemistry Laboratory (1) CHM3170 - Biochemistry Laboratory (1) CHM3170 - Biochemistry Laboratory (1) CHM3170 - Biochemistry (3) CHM3170 - Biochemistry (3) CHM3170 - Biochemistry (4) CHM3170 - Bioche	BIO3070 - Biology of Human Pregnancy (3) (B5) or	
BIO3130 - Marine Biology (3) (BS) BIO3220 - Cell and Molecular Biology (3) BIO4320 - Molecular Biology Techniques Laboratory (1) BIO4330 - Recombinant DNA and Protein Technology (3) and BIO4330 - Recombinant DNA and Protein Technology (3) and BIO4330 - Recombinant DNA and Protein Technology (3) and BIO4330 - Recombinant DNA and Protein Technology (3) and BIO4330 - Recombinant DNA and Protein Technology (3) and BIO4340 - Internship in Biology (1-2) (1-unit required) or BIO4450 - Internship in Biology (1-2) (1-unit required) or BIO4460 - Internship in Biology (1-2) (1-unit required) or BIO4460 - Internship in Biology (3) BIO4460 - Internship in Biology (3) BIO4501 - Immunology (3) BIO4660 - Microbial Physiology (3) BIO4660 - Microbial Physiology (3) BIO4660 - Microbial Physiology (3) BIO4670 - General Virology (3) BIO4670 - General Virology (3) BIO4670 - Hematology (3) BIO4700 - Biochemistry (3) BIO4700 - Biochemis	BIO3090 - Biology of the Brain (3) (B5) or	BIO438UL - Bioinformatics Laboratory (2) BIO4300 - Capear Call Biology (2)
BIO3202 - Cell and Molecular Biology (3) BIO4300 - Concepts of Molecular Biology (3) BIO4300 - Concepts of Molecular Biology (3) BIO4300 - Concepts of Molecular Biology (3) BIO4300 - Molecular Biology Techniques (3) and BIO4300 - Recombinant DNA and Protein Technology (3) and BIO4300 - Recombinant DNA and Protein Technology (3) and BIO4300 - Recombinant DNA and Protein Technology (3) and BIO4300 - Molecular Biology (1-2) (1-unit required) or BIO4410 - Internship in Biology (1-2) (1-unit required) or BIO4610 - Undergraduate Research (1) BIO4601 - General Chemistry (13) (B1) CHM1210 - General Chemistry (13) (B1) CHM1210 - General Chemistry (13) (B1) CHM1210 - General Chemistry (14) CHM1210 - General Chemistry (14) CHM2210 - Quantitative Analysis (2) CHM2210 - Quantitative Analysis (2) CHM2210 - Quantitative Analysis (2) CHM3140 - Organic Chemistry (14) CHM3140 - Organic Chemistry (15) CHM3270 - Biochemistry (15) BIO4700 - Biophysics (3) BIO4100 - Neuroscience I: Cell and Molecular Processes (3) BIO4100 - Neuroscience I: Cell and Molecular Processes (3) BIO4100 - Neuroscience I: Systems Neuroscience Laboratory (1) BIO4400 - Physiology I: Cells (3) BIO4450 - Physiology I: Systems Laboratory (1) BIO4450 - Physiology I: Cells (3) BIO4450 - Physiology I: Systems Laboratory (1) BIO4460 - Physiology I: Systems Laboratory (1) BIO4460 - Physiology I: Systems Laboratory (1) BIO4460 - Physiology I: Systems Laboratory (1)	BIO3120 - Biodiversity Conservation (3) (B5) <i>or</i>	
BIO4430L - Tissue Culture and its Application Laboratory (1) BIO4430L - Molecular Biology Techniques (3) and BIO4302 - Molecular Biology Techniques (3) and BIO4302L - Molecular Biology Techniques (3) and BIO430L - Molecular Biology Techniques (3) and BIO430L - Molecular Biology Techniques (3) and BIO430L - Recombinant DNA and Protein Technology (3) and BIO430L - Recombinant DNA and Protein Technology (3) and BIO430L - Recombinant DNA and Protein Technology (3) and BIO4410 - Internship in Biology (1-2) (1-unit required) or BIO4410 - Internship in Biology (1-2) (1-unit required) or BIO4410 - Undergraduate Research (1) BIO4601 - Undergraduate Research (1) BIO4601 - Undergraduate Research (1) CHM1210 - General Chemistry Laboratory I (1) (B3) CHM1210 - General Chemistry Laboratory I (1) (B3) CHM1210 - General Chemistry Laboratory I (1) (B3) CHM1220 - General Chemistry Laboratory I (1) (B3) CHM1220 - General Chemistry Laboratory (1) CHM1210 - General Chemistry Laboratory (2) CHM2210 - Quantitative Analysis Laboratory (2) CHM3140 - Organic Chemistry I (3) CHM3140 - Organic Chemistry I (3) CHM3150 - Organic Chemistry I (3) CHM3210 - Elements of Biochemistry (3) CHM3270 - Biochemistry Laboratory I (1) ENG1101 - Stretch Composition I (3) (A2) or ENG1103 - First Year Composition (3) (A3) ENG2105 - Written Reasoning (3) (A3)	DIO3130 - Matifie Biology (3) (B3)	BIO4400L - Stem Cell Biology Laboratory (1)
BIO4320 - Molecular Biology Techniques (3) and BIO4320 - Molecular Biology Techniques (3) and BIO4320 - Molecular Biology Techniques (3) and BIO4360 - Recombinant DNA and Protein Technology (3) and BIO4360 - Recombinant DNA and Protein Technology (3) and BIO4360 - Recombinant DNA and Protein Technology (3) and BIO4360 - Recombinant DNA and Protein Technology (3) and BIO4360 - Recombinant DNA and Protein Technology (3) and BIO4360 - Recombinant DNA and Protein Technology (3) and BIO4460 - Medical Mirotobiology (1) BIO4460 - Medical Mirotobiology (1) BIO4460 - Mirotobial Physiology (1) BIO4460 - Mirotobial Physiology (3) BIO4660 - Mirotobial Physiology (3) BIO4660 - Mirotobial Physiology (3) BIO4670 - General Virology (3) BIO4670 - General Virology (3) BIO4670 - General Virology (3) BIO4700 - Hematology (3) BIO4700 - Developmental Biology (3) BIO4700 - Principles of Evolution (3) BIO4700 - Principles of Evolution (3) BIO4700 - Principles of Evolution (3) BIO4700 - Organic Chemistry (1) BIO4100 - Organic Chemistry (1) BIO4100 - Biophysics (3) BIO4100 - Biophysics (3) BIO4100 - Biophysics (3) BIO4100 - Biophysics (3) BIO4100 - Neuroscience I: Cell and Molecular Processes (3) BIO4100 - Neuroscience I: Systems (3) BIO4200 - Neuroscience I: Systems (3) BIO4400 - Neuroscience I: Systems (3) BIO4400 - Physiology (1: Systems (3) BIO4400 - Physiology (2: Cells (3) BIO4400 - Physiology (2: Cells (3) BIO4400 - Physiology (2: Systems (3) BIO4400 - Physiology (2) BIO4400 - Physiology (2: Systems (3) BIO4400 - Physiology (2) BIO4400 - Physiology (2) BIO4400 - Physiology (2) BIO4400 - Physiology (2) BIO4400 - Physiology (3: Systems (3) BIO4400 - Physiology (3: Sy	BIO3220 - Cell and Molecular Biology (3)	
BIO4320 - Molecular Biology Techniques (3) and BIO4320 - Molecular Biology Techniques (a) and BIO4320 - Molecular Biology Techniques Laboratory (1) BIO4335 - Medical Microbiology (3) BIO43635 - Medical Microbiology (3) BIO4363 - Medical Microbiology (3) BIO4360 - Recombinant DNA and Protein Technology (a) and BIO4360 - Recombinant DNA and Protein Technology Laboratory (1) BIO4460 - Microbial Physiology (3) BIO4560 - Immunology (3) BIO4560 - Immunology (3) BIO4560 - Immunology (3) BIO4560 - Microbial Physiology (3) BIO4660 - Microbial Physiology (3) BIO4670 - General Virology (3) BIO4670 - General Virology (3) BIO4670 - Hematology (3) BIO4670 - Developmental Biodogy (3) BIO4670 - Principles of Evolution (3) BIO4670 - Principle	BIO4300 - Concepts of Molecular Bĭology (3)	
BIO4350 - Molecular Biology Techniques Laboratory (1) BIO4360 - Recombinant DNA and Protein Technology (3) and BIO4360 - Recombinant DNA and Protein Technology (3) and BIO4360 - Recombinant DNA and Protein Technology (3) and BIO4360 - Recombinant DNA and Protein Technology Laboratory (1) BIO4460 - Medical Virology (1) BIO4460 - Immunology (3) BIO4460 - Immunology (3) BIO4460 - Microbial Physiology (3) BIO4670 - General Chemistry I (3) (B1) CHM1210 - General Chemistry Laboratory I (1) (B3) CHM1220 - General Chemistry Laboratory I (1) (B3) CHM1220 - General Chemistry Laboratory I (1) (B3) CHM2210 - Quantitative Analysis (2) CHM2210 - Quantitative Analysis (2) CHM2210 - Quantitative Analysis Laboratory (2) CHM3140 - Organic Chemistry I (4) CHM3140 - Organic Chemistry I (3) CHM3140 - Organic Chemistry I (3) CHM3140 - Organic Chemistry I (3) CHM3270 - Biochemistry Laboratory I (1) ENG1101 - Stretch Composition II (3) (A2) or ENG1103 - First Year Composition (3) (A2) ENG1103 - First Year Composition (3) (A2) ENG2105 - Written Reasoning (3) (A3) ENG2105 - Written Reasoning (3) (A3) ENG2105 - Written Reasoning (3) (A3) ENG2105 - Ordical Thinking (3) (A3) ENG2105 - Ordical Thinking (3) (A3)	DIO 4000 Melagular Dialogra Techniques (9) and	
BIO4360 - Recombinant DNA and Protein Technology (3) and BIO4360 - Recombinant DNA and Protein Technology Laboratory (1) BIO4410 - Internship in Biology (1-2) (1-unit required) or BIO4610 - Undergraduate Research (1) BIO4610 - Undergraduate Research (1) BIO4660 - Microbial Physiology (3) BIO4670 - General Virology (3) BIO4700 - Hematology (3) BIO4700 - Principles of Evolution (3) BIO4700 - Developmental Biology (3) BIO4200 - Developmental Biology (3) CHM32140 - Organic Chemistry I (4) CHM3140 - Organic Chemistry Laboratory I (1) BIO4700 - Developmental Biology (3) BIO4200 - Developmental Biology (3) BIO4190 - Neuroscience I: Cell and Molecular Processes (3) BIO4190 - Neuroscience I: Cell and Molecular Processes (3) BIO4190 - Neuroscience I: Cell and Molecular Processes Laboratory (1) BIO4200 - Neuroscience I: Reviral Systems (3) BIO4200 - Neuroscience I: Reviral Systems (3) BIO4200 - Neuroscience I: Reviral Systems (3) BIO4450 - Physiology I: Cells (3) BIO4450 - Physiology I: Cells (3) BIO4450 - Physiology I: Systems (3) BIO4460 - Physiology I: Systems Laboratory (1) BIO4460 - Physiology I: Systems Laboratory (1) BIO4460 - Physiology I: Systems (3) BIO4460 - Physiology I: Systems (3) BIO4460 - Physiology I: Systems Laboratory (1) BIO4460 - Physiology I: Systems Laborat	BIO43201 - Molecular Biology Techniques (3) ario	
BIO43601 - Recombinant DNA and Protein Technology Laboratory (1) BIO4410 - Internship in Biology (1-2) (1-unit required) or BIO4610 - Undergraduate Research (1) BIO4610 - Undergraduate Research (1) CHM1210 - General Chemistry I (3) (B1) CHM1220 - Quantitative Analysis (2) CHM2210 - Quantitative Analysis Laboratory II (1) (B3) CHM2210 - Quantitative Analysis Laboratory (2) CHM3210 - Organic Chemistry I (4) CHM3140 - Organic Chemistry I (4) CHM3140 - Organic Chemistry I (3) CHM3210 - Elements of Biochemistry II (3) CHM3210 - Biochemistry I (3) CHM3270 - Biochemistry I (3) CHM3270 - Biochemistry I (3) CHM3270 - Biochemistry Laboratory I (1) ENG1101 - Stretch Composition II (3) (A2) or BIO4460 - Physiology I: Systems Neuroscience Laboratory (1) ENG2105 - Written Reasoning (3) (A3) or BIO4810 - Histology (2) ENG2105 - Written Reasoning (3) (A3) or BIO4810 - Histology (2)	OR	BIO4635L - Medical Microbiology Laboratory (1)
BIO4410 - Internship in Biology (1-2) (1-unit required) or BIO4410 - Undergraduate Research (1) BIO4600 - Microbial Physiology (3) BIO4670 - General Virology (3) BIO4670 - General Virology (3) CHM1220 - General Chemistry Laboratory I (1) (B3) BIO4700 - Hematology (3) BIO4700 - Developmental Biology (3) BIO4700 - Developmental Biology (3) BIO4700 - Developmental Biology (3) BIO4201 - Developmental Biology (3) BIO4201 - Developmental Biology (3) BIO4202 - Developmental Biology (3) BIO4301 - Developmental Biology (3) BIO4302 - Developmental Biology (3) BIO4301 - Developmental Biology (3) BIO4302 - Developmental Biology (3) BIO4301 - Developmental Biology (3) BIO4302 - Developmental Biology (3) BIO4302 - Developmental Biology (3) BIO4301 - Neuroscience I: Cell and Molecular Processes (3) BIO4302 - Developmental Biology (3) BIO4302 - Neuroscience I: Cell and Molecular Processes (3) BIO4302 - Neuroscience II: Neural Systems (3) BIO4302 - Neuroscience II: Neural Systems (3) BIO42001 - Neuroscience II: Systems Neuroscience Laboratory (1) BIO44601 - Physiology I: Cells (3) BIO44501 - Physiology I: Cells Laboratory (1) BIO44601 - Physiology I: Systems Laboratory (1) BIO44601 - Physiology I: Systems Laboratory (1) BIO44602 - Physiology II: Systems (3) BIO44601 - Physiology II: Systems (3) BIO44601 - Physiology II: Systems Laboratory (1) BIO4802 - Physiology II: Systems Laboratory (2) BIO4802 - Physiology II: Systems Laboratory (2)	BIO4360 - Recombinant DNA and Protein Technology (3) and	
BIO4410 - Internship in Biology (1-2) (1-unit required) or BIO4660 - Microbial Physiology (3) BIO4610 - Undergraduate Research (1) BIO4670 - General Virology (3) BIO4670 - General Chemistry I (3) (B1) BIO4670 - Hematology (3) BIO4670 - Hematology (3) BIO4670 - Hematology (3) BIO4700 - Hematology Laboratory (1) CHM12201 - Quantitative Analysis (2) BIO4200 - Quantitative Analysis (2) BIO420 - Quantitative Analysis (2) BIO4200 - Developmental Biology (3) BIO4020 - Developmental Biology (3) BIO4100 - Biophysics (3) BIO4190 - Neuroscience I: Cell and Molecular Processes (3) BIO4190 - Neuroscience I: Cell and Molecular Processes (3) BIO4190 - Neuroscience I: Neural Systems (3) BIO4200 - Neuroscience II: Systems (3) BIO4200 - Neuroscience II: Systems Neuroscience Laboratory (1) BIO4200 - Physiology I: Cells (3) BIO4450 - Physiology I: Cells (3) BIO4450 - Physiology I: Cells (3) BIO4460 - Physiology I: Systems (4)	BIO4360L - Recombinant DNA and Protein Technology Laboratory (1)	BIO4650L - Immunology (3)
BIO4660 - Undergraduate Research (1) CHM1210 - General Chemistry I (3) (B1) CHM12101 - General Chemistry Laboratory I (1) (B3) CHM12101 - General Chemistry Laboratory I (1) (B3) CHM1220 - General Chemistry Laboratory II (1) (B3) CHM1220 - General Chemistry Laboratory II (1) (B3) CHM12210 - Quantitative Analysis (2) CHM12210 - Quantitative Analysis (2) CHM12210 - Quantitative Analysis Laboratory (2) CHM12101 - Organic Chemistry Laboratory (2) CHM12101 - Organic Chemistry I (4) CHM12101 - Organic Chemistry I (4) CHM12101 - Organic Chemistry I (3) CHM12101 - Semphasis 2: Physiology BIO3240 - Principles of Evolution (3) BIO4202 - Developmental Biology (3) BIO4202 - Developmental Biology (3) CHM12101 - Semphasis 2: Physiology (3) BIO4202 - Developmental Biology (3) BIO4100 - Biophysics (3) BIO4100 - Biophysics (3) BIO4100 - Biophysics (3) BIO4100 - Biophysics (3) BIO4101 - Biophysics (3) BIO4200 - Neuroscience I: Cell and Molecular Processes (3) BIO4200 - Neuroscience II: Neural Systems (3) BIO4200 - Neuroscience II: Neural Systems (3) BIO4200 - Neuroscience II: Systems Neuroscience Laboratory (1) BIO4200 - Neuroscience II: Systems Neuroscience Laboratory (1) BIO4500 - Physiology I: Cells (3) BIO4450 - Physiology I: Cells (3) BIO4460 - Physiology I: Systems (3) BIO4460 - Physiology (2) BIO4810 - Histology (2) BIO4810 - Histology (2)	BIO4410 - Internship in Biology (1-2) (1-unit required) or	BIO4660 - Microbial Physiology (3)
CHM1210 - General Chemistry I (3) (B1) CHM1210L - General Chemistry Laboratory I (1) (B3) CHM1220 - General Chemistry Laboratory I (1) (B3) CHM1220 - General Chemistry Laboratory II (1) (B3) CHM1220 - General Chemistry Laboratory II (1) (B3) CHM1220 - General Chemistry Laboratory II (1) (B3) CHM1220 - Quantitative Analysis (2) CHM12210L - Quantitative Analysis (2) CHM12210L - Quantitative Analysis (2) CHM12210L - Organic Chemistry I (4) CHM1210L - Organic Chemistry Laboratory I (1) CHM1210L - Organic Chemistry I (3) CHM1210L - Organic Chemistry I (3) CHM1210L - Organic Chemistry I (3) CHM1210L - Elements of Biochemistry I (3) CHM1210L - Elements of Biochemistry I (3) CHM1220L - Biochemistry Laboratory I (1) CHM1220L - Physiology I: Cells Laboratory (1) CHM1220L - Physiology I: Cells Laboratory (1) CHM1220L - Physiology I: Systems (3) CHM1220L - Physiology II: Systems (3) CHM1220L - Physiology II: Systems Laboratory (1) CHM1220L - Physiology II: Systems Laboratory (2) CHM1220L - Physiology II: Systems (2) CHM1220L - Physiology II: Systems Laboratory (2)	BIO4610 - Undergraduate Research (1)	
CHM1220 L - General Chemistry Laboratory I (1) (B3) CHM1220 L - General Chemistry Laboratory I (1) (B3) CHM1220 L - General Chemistry Laboratory II (1) (B3) CHM220 L - General Chemistry Laboratory II (1) (B3) CHM2210 L - Quantitative Analysis (2) CHM2210 L - Quantitative Analysis (2) CHM3140 - Organic Chemistry I (4) CHM3140 L - Organic Chemistry Laboratory (1) CHM3150 - Organic Chemistry I (3) CHM3150 - Organic Chemistry II (3) CHM3210 - Elements of Biochemistry II (3) CHM3270 - Biochemistry I (3) CHM3270 L - Biochemistry Laboratory I (1) CHM3270 L - Biochemistry Laboratory I (1) CHM3101 - Stretch Composition II (3) (A2) or ENG1103 - First Year Composition (3) (A2) ENG2105 - Written Reasoning (3) (A3) or PHL2020 - Critical Thinking (3) (A3) ENG2105 - Written Reasoning (3) (A3) BIO4700 L - Hematology (3) BIO4700 L - Hematology (3) BIO4700 L - Hematology (3) BIO4700 L - Principles of Evolution (3) BIO4200 - Developmental Biology (3) BIO4200 - Developmental Biology (3) BIO4100 - Biophysics (3) BIO4100 - Neuroscience I: Cell and Molecular Processes (3) BIO4100 - Neuroscience II: Neural Systems (3) BIO4200 - Neuroscience II: Systems Neuroscience Laboratory (1) BIO4200 - Neuroscience II: Systems Neuroscience Laboratory (1) BIO4450 - Physiology I: Cells (3) BIO4450 - Physiology I: Cells (3) BIO4450 - Physiology I: Systems (3) BIO4460 - Physiology II: Systems (3) BIO4460 - Physiology II: Systems Laboratory (1) BIO4810 - Histology (2) BIO4810 - Histology (2)		BIO4670 - General Virology (3)
CHM1220 - General Chemistry II (3) (B1) CHM1220 - General Chemistry Laboratory II (1) (B3) CHM2210 - General Chemistry Laboratory II (1) (B3) CHM2210 - Quantitative Analysis (2) CHM2210 - Quantitative Analysis (2) CHM3140 - Organic Chemistry I (4) CHM3150 - Organic Chemistry I (3) CHM3150 - Organic Chemistry I (3) CHM31610 - Signature Chemistry I (3) CHM3210 - Elements of Biochemistry I (3) CHM3270 - Biochemistry I (3) CHM3270 - Biochemistry Laboratory I (1) CHM3270 - Biochemistry Laboratory I (1) CHM3270 - Biochemistry Laboratory I (1) ENG1101 - Stretch Composition II (3) (A2) or ENG1103 - First Year Composition II (3) (A2) ENG2105 - Written Reasoning (3) (A3) BIO4700 - Hematology Laboratory (1) EBIO4700 - Principles of Evolution (3) BIO4200 - Developmental Biology (3) BIO4020 - Developmental Biology (3) BIO4100 - Biophysics (3) BIO4190 - Neuroscience I: Cell and Molecular Processes (3) BIO4190 - Neuroscience I: Cell and Molecular Processes Laboratory (1) BIO4200 - Neuroscience II: Neural Systems (3) BIO4200 - Neuroscience II: Systems Neuroscience Laboratory (1) BIO4240 - Neuromuscular Physiology (3) BIO4450L - Physiology I: Cells (3) BIO4450L - Physiology I: Cells (3) BIO4450L - Physiology I: Cells Laboratory (1) BIO4460 - Physiology I: Systems (3) BIO4460 - Physiology II: Systems (3) BIO4460 - Physiology II: Systems Laboratory (1) BIO4810 - Histology (2) BIO4810 - Histology (2) BIO4810 - Histology (2)		
CHM1220L - General Chemistry Laboratory II (1) (B3) CHM2210 - Quantitative Analysis (2) CHM2210L - Quantitative Analysis (2) CHM3140 - Organic Chemistry I (4) CHM3140L - Organic Chemistry I (4) CHM3140L - Organic Chemistry Laboratory I (1) CHM3150 - Organic Chemistry II (3) CHM3210 - Elements of Biochemistry (3) or CHM3210 - Biochemistry I (3) CHM3270 - Biochemistry I (3) CHM3270 - Biochemistry Laboratory I (1) CHM3270 - Biochemistry Laboratory I (1) ENG1101 - Stretch Composition II (3) (A2) or ENG1103 - First Year Composition (3) (A2) ENG200 - Verifical Thinking (3) (A3) ENG200 - Critical Thinking (3) (A3) Emphasis 2: Physiology (3) BIO3240 - Principles of Evolution (3) BIO4200 - Developmental Biology (3) BIO42001 - Biochemistry II (3) BIO4100 - Biophysics (3) BIO4190 - Neuroscience I: Cell and Molecular Processes (3) BIO4190 - Neuroscience II: Neural Systems (3) BIO4200 - Neuroscience II: Systems Neuroscience Laboratory (1) BIO4200 - Physiology I: Cells (3) BIO4450 - Physiology I: Cells (3) BIO4450 - Physiology II: Systems (3) BIO4460L - Physiology II: Systems Laboratory (1) BIO4810 - Histology (2) BIO4810 - Histology (2)		
CHM2210 - Quantitative Analysis (2) CHM2210 - Quantitative Analysis (2) CHM210 - Organic Chemistry I (4) CHM3140 - Organic Chemistry Laboratory I (1) CHM3140 - Organic Chemistry Laboratory I (1) CHM3150 - Organic Chemistry II (3) CHM3210 - Elements of Biochemistry (3) CHM3210 - Elements of Biochemistry (3) CHM3270 - Biochemistry I (3) CHM3270 - Biochemistry Laboratory I (1) CHM3270 - Biochemistry Laboratory I (1) CHM3270 - First Year Composition II (3) (A2) or ENG1103 - First Year Composition (3) (A2) CHM3270 - Written Reasoning (3) (A3) CHM3270 - Written Reasoning (3) (A3) CHM3270 - Biochemistry Laboratory I (1) CHM3270 - Critical Thinking (3) (A3) CHM3270 - Biochemistry Laboratory I (1) CHM3270 - Biochemistry Laboratory I (1) CHM3270 - Biochemistry Laboratory I (1) CHM3270 - Critical Thinking (3) (A3) CHM3270 - Principles of Evolution (3) CHM3270 - Developmental Biology (3) CHM3270 - Neuroscience I: Ce	CHM1220L - General Chemistry Laboratory II (1) (B3)	Emphasis 2: Physiology
CHM214D - Quantitative Analysis Laboratory (2) CHM3140 - Organic Chemistry I (4) CHM3140 - Organic Chemistry Laboratory I (1) CHM3150 - Organic Chemistry Laboratory I (1) CHM3150 - Organic Chemistry II (3) CHM3210 - Elements of Biochemistry (3) or CHM3270 - Biochemistry I (3) CHM3270 - Biochemistry I (3) CHM3270 - Biochemistry Laboratory I (1) CHM3270 - Biochemistry Laboratory I (1) ENG1101 - Stretch Composition II (3) (A2) or ENG1103 - First Year Composition (3) (A2) ENG205 - Written Reasoning (3) (A3) or PHL2020 - Critical Thinking (3) (A3)	CHM2210 - Quantitative Analysis (2)	BIO3240 - Principles of Evolution (3)
CHM3140L - Organic Chemistry Laboratory I (1) CHM3150 - Organic Chemistry II (3) CHM3150 - Organic Chemistry II (3) CHM3210 - Elements of Biochemistry (3) or CHM3270 - Biochemistry I (3) CHM3270 - Biochemistry I (3) CHM3270 - Biochemistry I (3) CHM3270 - Biochemistry Laboratory I (1) CHM3270L - Biochemistry Laboratory I (1) ENG1101 - Stretch Composition II (3) (A2) or ENG1103 - First Year Composition (3) (A2) ENG2105 - Written Reasoning (3) (A3) or PHL2020 - Critical Thinking (3) (A3) ENG3105 - Written Reasoning (3) (A3) ENG3106 - Physiology II: Systems Laboratory (1) BIO4810 - Physiology II: Systems (3) BIO4810 - Histology (2) BIO4810 - Histology (2)		BIO4020 - Developmental Biology (3)
CHM3150 - Organic Chemistry II (3) CHM3210 - Elements of Biochemistry (3) or CHM3270 - Biochemistry I (3) CHM3270 - Biochemistry Laboratory I (1) ENG1101 - Stretch Composition II (3) (A2) or ENG1103 - First Year Composition (3) (A2) ENG2105 - Written Reasoning (3) (A3) or PHL2020 - Critical Thinking (3) (A3)	CHM3140 - Organic Chemistry Laboratory L(1)	BIO4020L - Developmental Biology Laboratory (1)
CHM3210 - Elements of Biochemistry (3) or CHM3270 - Biochemistry I (3) BIO41901 - Neuroscience I: Cell and Molecular Processes Laboratory (1) BIO4200 - Neuroscience II: Neural Systems (3) BIO42001 - Neuroscience II: Systems Neuroscience Laboratory (1) BIO4240 - Neuroscience II: Systems Neuroscience Laboratory (1) BIO44501 - Physiology I: Cells (3) BIO44501 - Physiology I: Cells Laboratory (1) BIO4460 - Physiology II: Systems (3) BIO44601 - Physiology II: Systems (3) BIO44601 - Physiology II: Systems Laboratory (1) BIO4810 - Histology (2) BIO4810 - Histology (2) BIO4810 - Histology Laboratory (2)	CHM3150 - Organic Chemistry II (3)	
BIO4200 - Neuroscience II: Neural Systems (3) BIO4200 - Neuroscience II: Neural Systems (3) BIO4200 - Neuroscience II: Systems Neuroscience Laboratory (1) BIO4240 - Neuromuscular Physiology (3) BIO4450 - Physiology I: Cells (3) BIO4450 - Physiology I: Cells Laboratory (1) BIO4450 - Physiology I: Systems (3) BIO4450 - Physiology II: Systems (3) BIO4450 - Physiology II: Systems (3) BIO4460 - Physiology II: Systems (3) BIO4460 - Physiology II: Systems (3) BIO4460 - Physiology II: Systems Laboratory (1) BIO4460 - Physiology II: Systems (3) BIO4460L - Physiology II: Systems (3) BIO4460L - Physiology II: Systems Laboratory (1) BIO4810 - Histology (2) BIO4810 - Histology (2)		BIO41901 - Neuroscience I: Cell and Molecular Processes (3)
CHM3270L - Biochemistry Laboratory I (1) BIO4240 - Neuromuscular Physiology (3) BIO4450 - Physiology I: Cells (3) BIO4450 - Physiology I: Cells Laboratory (1) ENG1101 - Stretch Composition II (3) (A2) or ENG1103 - First Year Composition (3) (A2) ENG2105 - Written Reasoning (3) (A3) or PHL2020 - Critical Thinking (3) (A3)		BIO4200 - Neuroscience II: Neural Systems (3)
ENG1101 - Stretch Composition II (3) (A2) or ENG1103 - First Year Composition (3) (A2) ENG2105 - Written Reasoning (3) (A3) or PHL2020 - Critical Thinking (3) (A3)	GHW3270 - BIOCHERHISTRY I (3)	BIO4200L - Neuroscience II: Systems Neuroscience Laboratory (1)
ENG1101 - Stretch Composition II (3) (A2) or ENG1103 - First Year Composition (3) (A2) ENG2105 - Written Reasoning (3) (A3) or PHL2020 - Critical Thinking (3) (A3)	CHM3270L - Biochemistry Laboratory I (1)	BIO4240 - Neuromuscular Physiology (3) BIO4450 - Physiology I: Colle (3)
ENG 1101 - Stretch Composition II (3) (A2) or ENG 1103 - First Year Composition (3) (A2) ENG 2105 - Written Reasoning (3) (A3) or PHL2020 - Critical Thinking (3) (A3) BIO4460 - Physiology II: Systems (3) BIO460 - Physio	• • • • • • • • • • • • • • • • • • • •	BIO4450L - Physiology I: Cells (3)
ENG1103 - Prist Year Composition (3) (A2) BIO4460L - Physiology II: Systems Laboratory (1) BIO4810 - Histology (2) BIO4810 - Histology (2) BIO4810L - Histology Laboratory (2)		BIO4460 - Physiology II: Systems (3)
ENG2105 - Written Heasoning (3) (A3) or PHL2020 - Critical Thinking (3) (A3) BIO4810L - Histology Laboratory (2)	ENGTIOS - FIIST TEAT COMPOSITION (3) (AZ)	BIO4460L - Physiology II: Systems Laboratory (1)
PHL2020 - Critical Thinking (3) (A3)	ENG2105 - Written Reasoning (3) (A3) or	
MAT1140 - Calculus I (4) (84) or	PHL2020 - Critical Thinking (3) (A3)	DIO40 TOL - HISTORY LADDIATORY (2)
	MAT1140 - Calculus I (4) (B4) or	

General Education Requirements

48 Units

Students should view their Degree Progress Report (DPR) for information regarding their General Education requirements. Unless specific GE courses are required for their major, please refer to the list of approved courses in the General Education Program in the University Catalog, catalog, cpp.edu. When viewing the catalog, students should select the catalog year associated with the GE requirements listed in their Degree Progress Report.

Area A. English Language Communication and Critical Thinking (9 units)

At least 3 units from each sub-area

- 1. Oral Communication
- 2. Written Communication
- 3. Critical Thinking

Area B. Scientific Inquiry and Quantitative Reasoning (12 units)

At least 3 units from B1, B2, B4, and B5 including 1 unit of lab from B1 or B2 to fulfill B3

- 1. Physical Sciences
- 2. Life Sciences
- 3. Laboratory Activity
- 4. Mathematics/Quantitative Reasoning
- 5. Science and Technology Synthesis

Area C. Arts and Humanities (12 units)

At least 3 units from each sub-area and 3 additional units from sub-areas 1 and/or 2

- 1. Visual and Performing Arts
- 2. Literature, Modern Languages, Philosophy and Civilization
- 3. Arts and Humanities Synthesis

Area D. Social Sciences (9 units)

At least 3 units from each sub-area

- 1. U.S. History and American Ideals
- 2. U.S. Constitution and California Government
- 4. Social Science Synthesis

Area E. Lifelong Learning and Self-Development (3 units)

Area F. Ethnic Studies (3 units)

Interdisciplinary General Education

18 Units

An alternate pattern for partial fulfillment of GE Areas A, C, and D available for students is the Interdisciplinary General Education (IGE) program. Students should see an advisor for specific GE coursework required by their major. Please refer to the University Catalog General Education Program section for additional information.

How IGE fulfills General Education Requirements:

Year	Completion of IGE Courses	Satisfies GE Requirements
First	IGE 1100, IGE 1200	A2 and C2
Second/Third	IGE 2150, IGE 2250	D1 and C2
	IGE 2350	C1
	IGE 3100	C3 or D4

American Institutions

6 Units

Courses that satisfy this requirement may also satisfy GE Area D1 and D2.

Graduation Writing Test

All persons who receive undergraduate degrees from Cal Poly Pomona must pass the Graduation Writing Test (GWT). The test must be taken by the semester following completion of 60 units for undergraduates.

PHY1220L - Electromagnetism, Circuits, and Light Laboratory (1) STA1300 - Biostatistics (3) (B4) Major Electives

MAT1200 - Calculus for Life Sciences (3) (B4)

PHY1210 - Physics of Motion, Fluids, and Heat (3) (B1) PHY1210L - Physics of Motion, Fluids, and Heat Laboratory (1) (B3)

PHY1220 - Physics of Electromagnetism, Circuits, and Light (3)

15-16 units

Any combination of courses from the FIVE emphases of electives would satisfy this requirement. Emphases are listed to provide guidance for selecting courses that best fit to your career goals. There is no requirement to declare a specific emphasis. In addition, up to 3 units combined from BIO 4000, BIO 4410, BIO 4610, and BIO 4620 may count towards major electives. Students who take MAT 1200 will need 16 units of Major Electives. Students who take MAT 1140 will need 15 units of Major Electives.

*Some courses may require 1000- or 2000-level prerequisites. These prerequisites cannot count towards degree.



CalPolyPomona

me:	
n:	Biotechnology, B.S.

SubPlan/Option:

Na

Min. Units Required: 120 units 2021-2022 University Catalog **Degree Curriculum Sheet**

Emphasis 5: Policy and Business

BIO4060 - Regulatory Affairs and Safety Assessment (3) BIO5760 - Regulatory Affairs for the Biotechnology Industry (3)

CIS3100 - Management Information Systems (3)

FST3220 - Food Laws and Regulations (3) FST3250 - Food Safety and Current Issues (3) (B5)

GEO4130 - Environmental Law (3)

IBM3012 - Principles of Marketing Management (3)

MHR3010 - Principles of Management (3) MHR3020 - Organizational Behavior (3) (D4) MHR3410 - Introduction to Entrepreneurship (3)

MHR4220 - Training and Development (3) PHL3330 - Bioethics (3) (B5 or C3)

PLT3030 - Pesticide Laws and Regulations (2) TOM3010 - Operations Management (3)

Unrestricted Electives

0-6 units

Select a sufficient number of courses so that the total from "Major Required", "Major Electives" "GE", and "Unrestricted Electives" is at least 120 units.

Emphasis 3: Biochemistry and Molecular Separation Techniques CHM3010 - Modeling the Fundamentals of Physical Chemistry (3) (B5) CHM3040 - Elements of Physical Chemistry I (3) CHM3050 - Elements of Physical Chemistry II (3) CHM3150L - Organic Chemistry Laboratory II (1) CHM3280 - Biochemistry II (3) CHM3280L - Biochemistry Laboratory II (1) CHM3310 - Clinical Chemistry (2) CHM3310L - Clinical Chemistry Laboratory (1) CHM3400 - The Chemist in Industry (3) CHM3420 - Spectroscopic Methods (1) CHM3420L - Spectroscopic Methods Laboratory (1) CHM3430 - Separation Methods (1) CHM3430L - Separation Methods Laboratory (1) CHM3440 - Electroanalytical Methods (1) CHM3440L - Electroanálytical Methods Laboratory (1) CHM3520L - Physical Chemistry Laboratory (2) CHM4090 - Polymer Chemistry (2) CHM4160 - Macromolecular Modeling (3) CHM4220 - Organic Synthesis (2) CHM4220L - Organic Synthesis Laboratory (2) CHM4240 - Organic Analysis (2) CHM4240L - Organic Analysis Laboratory (2) CHM4480 - Modern Mass Spectrometry and FT-NMR (3) CHM4500 - Bioanalytical Chemistry (3) CHM4500L - Bioanalytical Chemistry Laboratory (1) CHM4510 - Enzymology (3) CHM4510L - Enzymology Laboratory (1) CHM4520 - Advanced Biomolecular Structure (3) CHM4540 - Advanced Metabolism (3) CHM4590 - Green Chemistry (3) ECE4735 - Biomedical Signals, Instrumentation and Measurements (3) Emphasis 4: Food, Agriculture, and Environment AHS3305 - Parasitology and Infectious Diseases (3) AHS3305L - Parasitology and Infectious Diseases Laboratory (1) AVS4430 - Biotechnology Applications in Animal Science (3) AVS4430L - Biotechnology Applications in Animal Science Laboratory (1) BIO4480 - Plant Physiology (3) BIO4480L - Plant Physiology Laboratory (1) BIO4530 - Plant Anatomy (2) BIO4530L - Plant Anatomy Laboratory (2) BIO4680 - Microbial Ecology (2) BIO4680L - Microbial Ecology Laboratory (1) BIO4800 - Entomology (2) BIO4800L - Entomology Laboratory (2) CHM4490 - Environmental Analysis (2) CHM4490L - Environmental Analysis Laboratory (1) FST3321 - Food Process Engineering (3) FST3321L - Food Process Engineering Laboratory (1) FST4261 - Food Chemistry (3) FST4261L - Food Chemistry Laboratory (1) FST4280 - Food Analysis (3) FST4280L - Food Analysis Laboratory (1) NTR3930 - Advanced Nutrient Metabolism I (3) * NTR3940 - Advanced Nutrient Metabolism II (3) * NTR4370 - Nutritional Genomics (3) PLT4040 - Plant Breeding (2) PLT4040L - Plant Breeding Laboratory (1) PLT4110 - Environmental Toxicology (3) PLT4190 - Plant Pathology (2) PLT4190L - Plant Pathology Laboratory (1) PLT4210 - Production Mycology (2) PLT4210L - Production Mycology Laboratory (1) PLT4220 - Specialized Plant Propagation (2) PLT4220L - Specialized Plant Propagation Laboratory (1)

PLT4310 - Soil Chemistry (2) PLT4310L - Soil Chemistry Laboratory (1)