Specific Requirements for the Bachelor of Science Degree with a Major in Biology and a Concentration in Biotechnology.

The curriculum for the Bachelor of Science in Biology with a concentration in Biotechnology includes a specific set of courses designed to provide students with a foundation in Biotechnology related fields. In the broad sense, biotechnology refers to technology/methodology of relevance to the biological, biomedical, agricultural and environmental sciences. Typically this involves the manipulation (as through genetic engineering) of living organisms or their components to produce useful commercial products (as pest resistant crops, new bacterial strains, or novel pharmaceuticals). Students who complete this degree option may apply their skills in numerous areas such as: research, development and production in the life science industry; pharmaceutical/biomedical sales; public/county health; food and agricultural industry.

Requirements for the B.S. in Biology

Students seeking a Bachelor of Science in Biology with a concentration in Biotechnology must complete the following:

1. Biology courses*
   a. Core requirements:
      - BIOL 201 Intro Biology-Cells (5)
      - BIOL 202 Intro Biology-Animals (5)
      - BIOL 203 Intro Biology-Plants (5)
      - BIOL 304 General Genetics (4)
      - BIOL 305 General Physiology (4)
      - BIOL 301 Research Design & Analysis (5)
      - BIOL 470 Evolution (5)
      - BIOL 490 Senior Seminar (3)
      
      Note: A grade of C- or better in BIOL 201 is required to advance into upper division Biology courses.

   b. Concentration specific:
      - BIOL 312 Microbiology (5)
      - BIOL 330 Molecular Genetics (5)
      - BIOL 360 Bioinformatics (5)
      - CHEM 340 Biochemistry (5)
      
      and one of the following:
      - BIOL 412 Microbial Physiology (5)
      - BIOL 414 Medical Microbiology (5)
      - BIOL 424 Evolutionary Genetics (5)
      - BIOL 430 Advanced Molecular Genetics (5)
      - Or any 400 level course with lab by consent of advisor

   *A minimum GPA for these 61 units is 2.0.

2. Cognates+
   - CHEM 211 Principles of General Chemistry I (5)
   - CHEM 212 Principles of General Chemistry II (5)
   - CHEM 213 Principles of General Chemistry III (5)
   - CHEM 331 Concepts of Organic Chemistry I (5)
   - CHEM 332 Concepts of Organic Chemistry II (5)
   - CHEM 333 Concepts of Organic Chemistry III (5)
   - MATH 201 Calculus I or MATH 211 Calculus for Life Sciences and Medicine I (5)
   - PHYS 201 Basic Principles of Newtonian Physics (5)
   - PHYS 202 Basic Principles of Maxwellian Physics (5)
   - PHYS 203 Basic Principles of Contemporary Physics (5)

   + A minimum GPA for these 50 units is 2.0.

Total Units for the Major (61 Units)

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