### B.S. IN MICROBIOLOGY, MICROBIAL ECOLOGY OPTION

#### 2020/2021 CATALOG

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#### REQUIRED MAJOR COURSES (C- OR BETTER)

- **Biology/Microbiology Core Courses—All Required**
  - BIOB 160N/161N—Principles of Living Systems/Lab (3/1) - autumn, summer
  - BIOB 170N/171N—Principles of Biological Diversity/Lab (3/2) - spring, summer
  - BIOB 260—Cell and Molecular Biology (4) - autumn, summer
  - BIOB 272—Genetics and Evolution (4) - spring

- **Microbial Ecology Major Courses—All Required**
  - BIOE 370—General Ecology (3) - autumn
  - BIOM 360/361—General Microbiology/Lab (3/2) - autumn
  - BIOM 410/411—Microbial Genetics/Lab (3/1) - spring
  - BIOM 415—Microbial Diversity, Ecology, & Evolution (3) - spring
  - BIOM 450/451—Microbial Physiology/Lab (3/1) - odd autumn (A21)

- **Biochemistry—Choose Basic or Advanced**
  - **Basic**: BCH 380—Biochemistry (4) - autumn, spring
  - **Advanced**: BCH 480—Adv. Biochemistry I (3) - autumn
  - *BCH 482—Adv. Biochemistry II (3) - spring

  > Note: BCH 480-482 requires completion of the advanced chemistry sequence.

- **Microbial Ecology Depth—Choose 7 or 9 Credits from the Following (7 If BCH 480-482; 9 If BCH 380); Labs Required**
  - *BIOB 410/411—Immunology/Lab (3/2) - autumn
  - *BIOE 371—Ecology Lab (2) - autumn
  - BIOE 400—Aquatic Microbial Ecology - summer (FLBS)
  - *BIOE 428—Freshwater Ecology (5) - spring
  - BIOE 439—Stream Ecology (3) - summer (FLBS)
  - BIOE 453—Lake Ecology (3) - summer (FLBS)
  - BIO 470—Host-Microbe Interactions (3) - spring
  - BIO 427/428—Parasitology/Lab (2/2) - autumn
  - BIO 435—Virology (3) - spring
  - BIO 460—Ecology of Infectious Diseases (3) - spring
  - BIO 490—Advanced Undergrad Research
  - BIOO 433/434—Plant Physiology/Lab (3/1) - spring

#### REQUIRED COURSES OUTSIDE OF THE MAJOR (C- OR BETTER)

- **Calculus—Choose One of the Following**
  - M162—Applied Calculus (4) - autumn, spring, summer
  - M171—Calculus I (4) - autumn, spring, summer

- **Statistics & Physics—All Required**
  - STAT 216—Intro to Statistics (4) - autumn, spring, summer
  - PHSX 205N/206N—College Physics I/Lab (4/1) - autumn, spring, summer

- **Chemistry—Choose Intro or Advanced Sequence**
  - **Intro**: CHMY 121N—Intro General Chemistry (4)
    - CHMY 123/124—Intro Organic/Biochem (4/2)
      - (all offered autumn, spring, summer)
  - **Advanced**: CHMY 141N/142N—Coll. Chem I/Lab (4/1) - aut, spr
    - CHMY 143N/144N—Coll. Chem II/Lab (4/1) - spr, sum
    - CHMY 221/222—Organic Chem I/Lab (3/2) - autumn
    - CHMY 223/224—Organic Chem II/Lab (3/2) - spring

- **Science Electives—Choose At Least 6 Credits from the Following**
  - CHMY 311—Analytical Chemistry (4) - autumn
  - CSCI 100—Intro to Programming (3) - autumn, spring
  - CSCI 135—Fund of Comp Science I (3) - aut, spring, sum
  - GEO 420—Hydrogeology (4) - intermittent
  - GEO 482—Global Change (3) - intermittent
  - M 172—Calculus II (4) - autumn, spring, summer
  - M 273—Multivariable Calculus (4) - autumn, spring
  - NRSM 210N—Soils, Water & Climate (3) - spring
  - PHSX 207/208—Coll. Physics II/Lab (4/1) [or 217/218]
  - STAT 451/457—Statistical Methods I (4) - autumn
  - STAT 452/458—Statistical Methods II (4) - spring

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*Advanced college writing requirement met with BIOM 411 (required), and one course marked with *