# B.S. in Microbiology, Microbial Ecology Option

## 2018/2019 Catalog

### 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) - autumn

#### 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 – 9 Credits from the Following (7 IF BCH 480-482; 9 IF BCH 380); Labs Required
- **BIOE 410/411**—Immunology/Lab (3/2) - autumn
- **BIOB 440**—Biol Electron Microscopy (2) - spring
- **BIOE 371**—Ecology Lab (2) - autumn
- **BIOE 428**—Freshwater Ecology (5) - spring
- **BIOE 439**—Stream Ecology (3) - summer (FLBS)
- **BIOE 453**—Lake Ecology (3) - summer (FLBS)
- **BIOM 427/428**—Parasitology/Lab (2/2) - autumn
- **BIOM 435**—Virology (3) - spring
- **BIOM 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
- **M171**—Calculus I (4) - autumn, spring

#### 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 [or PHSX 215N/216N]

#### Chemistry—Choose Intro or Advanced Sequence
- **INTRO:** **CHMY 121N**—Intro General Chemistry (3)
- **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 135**—Fund of Comp Science I (3) - autumn, spring
- **GEO 420**—Hydrogeology (4) - spring
- **GEO 482**—Global Change (3) - intermittent
- **M 172**—Calculus II (4) - autumn, spring
- **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

*Advanced College Writing Requirement met with BIOM 411 (required), and one course marked with *