

Biological Sciences (BSC)

BSC 292. Applied Biology Sophomore Seminar: Planning Your Future in Applied Biology. (1)

This is a one-credit course designed for sophomores majoring in Applied Biology. Students will explore career options in applied biology and professional fields, while completing a 10-hour online training course leading to certification by the Occupational Safety and Health Administration (OSHA10). Students will review internship and undergraduate research opportunities, and will attend at least one public biology seminar, workshop or forum. Students will complete a plan of study; a resume; and an application for an internship, co-op or independent research experience.

Prerequisite: Completion of BIO 115 or BIO 116, or permission of instructor.

BSC 313. Microbial Diversity. (4)

Molecular, biochemical and evolutionary diversity of the microbial world, including Bacteria, Archaea, and Eukaryotes. Taught in Hamilton and Middletown only.

Prerequisite: BIO/MBI 116 or MBI 161 and BIO 203 or permission from instructor.

BSC 321. Research in Applied Biology. (1-3; maximum 3)

Analysis of issues and concepts in applied biology utilizing laboratory, field, and computational techniques. Only a total of three semester hours of BSC 321 can be used to fulfill Professional Courses requirement for Applied Biology majors. EL.

Prerequisites: BIO 115 and BIO 116, and permission of instructor.

BSC 340. Internship. (0-20)

BSC 415. Approaches to Problem Solving and Research in Applied Biology Capstone. (3) (MPC)

An exploration into the manner in which we seek solutions to real world problems and the way in which we answer scientific questions in the biological sciences. The specific focus will vary and will either be related to the environment or to human health.

Prerequisite: Senior level standing and have completed at least 9 credit hours at the 200 level or above in natural sciences.

BSC 416. Applications of Biotechnology to Human Health: Concepts and Issues. (3) (MPC)

An in-depth analysis that focuses on the ethics and trends in biotechnology and its applications to human health. Selected topics in science and technology that drive innovative approaches to human healthcare as they relate to disease and therapies to disease will be covered; including, but not limited to, drug development, bioinformatics, stem cell therapies, vaccines, DNA diagnostics, and biotechnology in agriculture/genetically modified foods.

Prerequisites: BIO 342 and BIO 464/BIO 564, plus one year college chemistry.

BSC 475. Capstone in Environmental Biology. (3) (MPC)

The environment affects humans in many ways, so changes to the environment can alter our well-being (e.g., health, standard of living). This course will explore the causes of environmental problems resulting from anthropogenic activities, and the strategies that can be used to mitigate or manage these issues. An interdisciplinary approach will be taken, emphasizing the interplay among the ecological, political, social, cultural and economic aspects of environmental problems. Students will be required to develop and critically evaluate effective strategies for abating environmental problems of local, national or global concern.

Prerequisites: BIO 209 or 209W and junior standing; or permission of instructor.

BSC 492. Applied Biology Senior Seminar: Becoming a Professional Biologist. (1)

This is a one-credit course designed for seniors majoring in Applied Biology. Students will prepare to enter the workforce as professional biologists or continue on to postgraduate training, while completing a 40-hour online training course leading to certification by the Occupational Safety and Health Administration. Emphasis will be placed on understanding emerging issues in biology, obtaining employment or further education, and integrating the Tool requirement into a career in Applied Biology.

Prerequisites: Completion of at least 24 hours of biological sciences courses (BIO, BSC, MBI) and senior standing, or permission of the instructor.