

All concentrations in Environmental Engineering currently require BISC 302 General Ecology (3 credits). While we do not believe this is the best biology course for our students, because ABET required background in ecology this course was included in our curriculum. Now, however, the revised ABET accreditation criteria no longer state that background in ecology is required. Instead, students are required to obtain "proficiency in ... a biological science, e.g., microbiology, aquatic biology, toxicology, relevant to the program of study." With this change we believe our students are best served if they obtain proficiency in microbiology, training that begins with BISC 207 Introductory Biology I (4 credits).

With this change we believe our students are best served if they obtain proficiency in microbiology, training that begins with BISC 207 Introductory Biology I (4 credits). The composition and physiology of microbial communities have significant impact on the quality and health of environment as microorganisms are found in wastewater treatment plants, drinking water distribution system, bioremediation sites, landfills, and indoor air environments. The biologically literate environmental engineers will better understand and cope with not only environmental issues such as pollution treatment, ecosystem destruction and species extinction, but also genetic engineering in agriculture and medicine, and bioethics.

BISC 207 covers the molecular basis of life; structure and function of cells, including signal transduction pathways; energy transformations; classical Mendelian genetics; and the flow of information from DNA to RNA to proteins. This course offers an opportunity for environmental engineering students to become better acquainted with basic biological concepts and related fundamental principles, thus better preparing them for more advanced courses in biology, such as microbiology. In addition, this course will provide them with the tools to communicate more productively with environmental scientists and biologists.

The environmental faculty unanimously approved this change to our curriculum. By replacing BISC 302 with BISC 207 one credit hour is added to all concentrations. The total minimum credit hours will remain at 125 by reducing the number of credit hours required for technical electives by one for each concentration.