

Report on the Major in Environmental Engineering
Committee on Majors
January 20, 2012

In October 2011, the faculty of Environmental Engineering (EnvEng) proposed a portfolio of changes in the structure and content of the major. Currently the faculty offers

three distinct undergraduate majors: one leading to a Bachelor of Arts in Engineering Sciences (Environmental), one leading to a Bachelor of Science in Engineering Sciences (Environmental), and one leading to a Bachelor of Science in Environmental Engineering. The proposal requests the merger of the two BS degrees, which were designed respectively to lead to "a career as a practicing environmental engineer," and to a more flexible set of career options. It also involves some changes in course requirements, for both the BA and the BS programs, as detailed below.

Faculty for EnvEng at Yale are drawn from the Department of Chemical and Environmental Engineering, which is housed in the School of Engineering. There are currently 3.5 members of the EnvEng faculty (from among 12.5 in the department as a whole), and 14 majors (junior and seniors). The small size of the faculty, together with the interdisciplinarity of the subject, results in a large number of required courses outside of the School of Engineering. The current proposal seeks in part to increase the proportion of requirements within the School.

The proposal supplements the list of prerequisites for the BS program, currently consisting of seven courses and two labs in Mathematics, Physics, and Chemistry, by adding ENAS 194 (Ordinary and Partial Differential Equations) and an introductory biology course. The requirements for the proposed BS involve twelve term courses beyond these prerequisites. Significant changes from the current requirements (for the more course intensive of the two BS tracks) include the elimination of Microbiology (MCDB 290), Green Chemistry (CHEM 102), and a course in Physical Chemistry (CHEM 328, 332, or 333). The senior project, currently customized for the EnvEng sector of the Department of Chemical and Environmental Engineering, will now be integrated into a unified requirement for all BS students in the department. The requirements for the BA program involve addition of two requirements in Environmental Engineering, and elimination of one in Forestry and Environmental Studies.

The committee met with Jordan Peccia, Director of Undergraduate Studies for Environmental Engineering, on December 9, to discuss the proposal. Also in attendance by invitation was Lloyd Suttle, representing the Provost's office. Mr. Peccia stressed that the new proposal was motivated primarily by the circumstance that BS students gravitate with near unanimity to the more course-intensive pre-professional track, and secondarily by the desire to simplify the administration of a major with a very small faculty. Mr. Suttle echoed the desire for simplification, noting that from the perspective of the Provost's office the EnvEng faculty was already stretched to capacity. The Committee also consulted with Vincent Wilczynski, Deputy Dean of the School of Engineering, who indicated that this proposal has the full support of Dean Vanderlick.

Agreeing that the benefits of the proposal came without any identifiable costs, the Committee on Majors unanimously recommends that the proposal be accepted without reservation or change.

Committee on Majors

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